DESIGNING FOR THE SITE

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Front and Back Cover Image:

Thesis

Precedent Studies

Selected Site Location: Harbor Springs, Michigan

Visit to Selected Site and the Surrounding Areas

Proposed Site and Building Design

ABSTRACT

From mountains and hills to valleys and plains, there exists a variety of landscapes of which act as the resting place for architectural designs and buildings. However, when selecting a site on which to construct, the architect faces the problem of whether to preserve and incorporate the existing landscape into the design or remove and replace the land for the construction to occur. As architecture seeks to create new environments for its inhabitants, architecture should not take away from nor destroy the existing landscape. Furthermore, as architecture is designed to fit on an existing plot of land, the architect should create a design that forms a cohesive relationship with the land on which the architecture rests.

The overall goal of this thesis will be to determine how architecture can be placed on sites with varying topographies and the architecture not taking away from, physically or visually, the existing naturalized landscape. With research and analysis of the different means of which to construct a building on varying landscapes, the intent is to create architecture that forms a constructive relationship with its surroundings. Whether this relationship exists in the form and structure of the architecture, the visual or physical connection of the building's users to the site, or the elements and materials used on the building's façades, the relationship of the building to its site is further strengthened if the building blends in with the naturalized surroundings. A successful architectural design adds to and enhances, not removes and depletes the existing landscape of the earth.

THESIS PAPER

        Jeremiah Eck, the author of the book <u>House in the Landscape: Siting Your Home Naturally</u>, states, "It is sad that so much of contemporary America is being gobbled up by unthinking developments that subdivide the land into plots that have little or nothing to do with the natural characteristics of the site, where most of the natural references such as trees or topography have been destroyed" (Eck 158). Today, many architects create buildings that have little to no reference to or have no benefit for or from the site. This problem can be solved if architects understand the naturalized condition of the site and how to design architecture that works for or with the land instead of against it. Through the study of the philosophy of preserving the earth, gaining an understanding of all aspects of a site, whether or not they are immediately visible, using the site's features in the design or designing architecture around these features, and an analysis and understanding of different landscape forms and features and the relationship of architecture with these features, architects can create buildings that form a cohesive, balanced relationship with the site upon which the architecture sits.

        One of the factors of preserving the earth is that human beings need to be one with the land that surrounds us; instead of ignoring the features of the land, architects need to form a relationship, on an emotional level, with those features before a building can be placed on a site. David Pearson, the author of the book <u>Earth to Spirit: In Search of Natural Architecture</u>, writes, "[There should be a] desire for many to find more fundamental ways of living in harmony with the land and rebalancing their relationship with [the earth]" (Pearson 72). This is not to say that humans should form a familial relationship with the earth's natural features, however, human beings, especially architects, should learn about the qualities and characteristics of the site and its surroundings and gain an understanding of how architecture can be created so that human beings can live with and benefit from these features.

        The buildings architects design can also be created to form or by forming a relationship with the naturalized features of their project sites. Architecture should not be placed upon or within a site for the sole purpose of building a building; for a successful bond between architecture and its site to occur, architecture needs to "be intimate with [the earth] and literally love the ground on which [it stands]" (Pearson 50). For a further understanding of this concept, a human-based analogy can be used. For example, in any successful business, employees learn to understand, relate to, and cooperate with their fellow employees and clients. The work performed and products produced help meet the needs of the clients and create a balanced, successful relationship between the employees and the clients. If the aforementioned example is put in architectural terms, with the architect and architectural building as the employee and the site as the client, then the architect needs to design the architecture to meet the needs of the site and work with the site, as it exists, in order to develop a relationship between the produced building and the existing site.

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Another philosophical approach to preserving the naturalized environment involves gaining an appreciation for the beauty of the land, whether it relates to a single tree or plant, for example, or the scenic landscape as a whole. While viewing the site in its naturalized condition, the architect should approach the design and siting of the proposed architecture with a sense of admiration and respect for the surrounding landscape. Furthermore, since the naturalized world is often referred to as beautiful, gentle, fragile, or delicate, which all are feminine-like qualities, the architect should be mindful and considerate of the site. Stephen Kellert, the author of the book <u>Building for Life: Designing and Understanding the Human-Nature Connection</u>, adds:

> "Frank Lloyd Wright once stated, '[The earth] is a good teacher. I am a child of hers, and apart from her precepts,
> I cannot flourish. I cannot work as well as she, perhaps, but at least I can shape my work to sympathize with what
> seems beautiful to hers. . . . Any building . . . should be an elemental, sympathetic feature of the ground,
> complementary to its nature-environment, belonging by kinship to the terrain'" (Kellert 130).

If the earth is personified as our mother, is it justifiable, when the architect is placing the building on the site plan, to neglect the existing landscape and clear it all away for the benefit of the architectural building? Just as we are taught to respect our mothers and treat them with love and kindness, the architect and the created architecture should show reverence, not ignorance, for the land that came before us. Allowing the earth to teach us about its features will help architects develop successful planning strategies for the issue of the proper placement of architecture on the site.

Along with treating the naturalized world with respect, an architect should think of how they feel when surrounded by the abundant beauty of the land. Architects and the architecture they create should respond to the peace and serenity of the landscape of the site. In addition to documenting the site as it exists, when designing the proposed building architects should take into account the emotions felt when surrounded by the site's existing landscape features. Several writers have documented these feelings and have coined them as "biophilia." Jeffrey McKee, the author of the book <u>Sparing Nature: The Conflict Between Human Population Growth and Earth's Biodiversity</u>, writes, "[E. O.] Wilson defined biophilia as 'the connections that human beings subconsciously seek with the rest of life.' In other words, our attraction to trees and [the earth] is hardwired in our brains" (McKee 175). In order for the users of a building and the building itself to be connected with the site upon which they enter, it is not sufficient to clear the land of all of its beautiful landscape in order to create architecture large enough to be used by many people. The emotions felt when immersed in or surrounded by the naturalized world should be incorporated into architectural design so the building and its future inhabitants are able to share the same feelings as the architect had while first visiting the site.

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Buildings can also be designed to mimic objects or the life cycles of the objects found throughout the environment. This idea is known as "biomimicry," which, according to David Pearson, is architecture "which mimic[s] the complexity and resilience of natural systems as closely as possible [in the architectural design]" (Pearson 74). Architects can create this mimicry in several components of the design. For example, the building plan or elevations can be designed similar to a large tree, a small plant, or a microscopic organism or feature found on the site. One architectural building that uses the concept of biomimicry in the design is the Wellness Centre – Berg Oase building (IMAGE 02) designed by the architect Mario Botta. Portions of the building's exterior are designed to resemble the leaves of the trees surrounding the building. Furthermore, the building design could portray the growth or life cycle process of one or more members of an ecosystem found within the site. With the process of mimicking certain features of the site, the architect will gain a better understanding of how naturalized inhabitants of the site grow and work for and with each other; gaining knowledge of the earth's forms and patterns will allow the architect to create architecture that does not take away from or hinder the life cycles of the site's existing landscape features.

IMAGE 02

While the aforementioned philosophical ideas are related to preserving the earth, the philosophy of clearing the land needs to be addressed, as well, in order to fully understand all aspects, both for and against, land preservation. If the site has varied topography or many landscape elements, such as an abundant variety of trees, it is often easier for the architect to design the site plan by clearing the hills and plants of the land in order to create the building on flat ground. However, if the architect goes about the design in this manner, he or she does not realize the damage they are causing to all life forms that exist within the site, whether they are immediately visible or not. Ken Yeang, the author of the book Designing With Nature: The Ecological Basis for Architectural Design, adds, "The ecosystem of the project site and its components must first be analyzed and studied holistically so that we can thoroughly understand its components and processes . . . and its susceptibility to change and design intervention" (Yeang 8). Although clearing away several trees and plants in order to add more space to the proposed building is beneficial for the future human inhabitants of the proposed building, taking away the trees or plants has an immediate effect on the organisms using the plants for means of survival, such as shelter, food, and energy. Clearing the land of its landscape elements also has an effect on the future animals or organisms that may have some form of benefit for or from the site as it exists in its original naturalized condition.

Furthermore, since architects do not see the immediate effects of their actions and attitudes toward land clearing on the site, this may lead to architects thinking they have control over or can control the naturalized environment. The idea of designing for the site does not mean to take control of all of the site's features and do what the architect wishes with these features. Just because the landscape elements of the site cannot object to or voice an opinion against being cleared away or forgotten in the design process, this does not mean architects can design a site plan with a program that wipes away all of the existing features of the site. Edward Wilson, the author of the book Biophilia: The Human Bond with Other Species, states, "We never conquered the world, never understood it; we only think we have control" (Wilson 139). As previously mentioned, there are so many naturalized components within a site, whether seen or unseen, which play a role in the earth's form and processes. Human beings should treat the earth and these processes as if we are one with the earth, instead of thinking that clearing the land to create architecture which serves to benefit a large number of human beings is the correct manner in which to approach the design process.

In order to design for the site, the architect needs to learn about and understand all aspects of the site. While performing a site analysis, the architect should document more than the weather patterns, topography, and existing buildings and vegetation of the site. These are just parts of the first step of understanding and designing for the site. Curt Meine, the author of the book Correction Lines: Essays on Land, Leopold, and Conservation, adds, "It follows therefore, that the first fact of architecture is the topography of a place and the way

IMAGE 03

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human beings respond to it with their own constructed forms" (Meine 188). While the topography of the site is a good reference as to the form and placement of the architecture on the site, more components of the site can be incorporated into the building design and placement within the site as to strengthen the relationship of the architectural building to the land. Furthermore, to fully understand the site for what it is worth and what its features can provide, the architect should research and document the various plant types found throughout the site and create the proposed building with those plants in mind. As previously mentioned, there is more to a site than what meets the eye. If the architect takes time to research the existing trees on the site, for example, evidence of more life forms and cycles will arise. An understanding of all of these aspects will help the architect to create an architectural design of which does not impede on the naturalized elements of the site.

An understanding of how the earth's life forms work, relate to, and sustain life with each other also can be beneficial when siting architecture. Many organisms grow or feed off of each other or depend on one another for survival. If one of these life forms is taken away and replaced by a non-living architectural form, this creates a disturbance and could even put a halt to the life and growth patterns of the earth. For example, within the trunk, branches, and leaves of a tree, many life forms use, but do not destroy, the tree in order to obtain a certain necessity of life. Architects should utilize this idea of using, but not destroying, the earth while determining where on the site to place the building. The architecture can be designed around the existing landscape features of the site, the building could be placed near the naturalized elements without encroaching on the span of their roots or branches, or the architecture could be placed at a distance from the site's defining landscape features. Just as architects create spaces within a building with the personal space of humans in mind, architects should also treat the features of the site as if they had a personal space, as well, when creating the site plan for the building in order to avoid encroaching on the features of the earth.

Christian Norberg-Schulz, the author of the book <u>Genius Loci: Towards a Phenomenology of Architecture</u>, writes, "The third mode of natural understanding consists in the definition of the character of natural places, relating them to basic human traits" (Norberg-Schulz 28). When designing for the site, if the architect relates the human pattern of growth and basic needs to those of the earth, the architect will gain a better understanding of what needs to remain on the site in order for it to thrive once an architectural building is introduced on the site. While the growth patterns of humans and plants differ, a similar pattern of birth, growth, and renewal of life occurs in both species. Although humans do not grow to be as tall as trees, for example, throughout history, the patterns of evolution of humans and plants, while different in many ways, have changed to adapt to the current conditions of the earth. Knowing the necessities for survival of both humans and plants can help the architect gain a better understanding of the impact and effect their architectural siting decisions have on

the naturalized surroundings of the site.

It is important for the architect, while designing architecture for the site, to understand the future implications the design may have on the environment. These consequences can be environmental, physical, or visual. Future environmental effects may include issues with air quality, heating and cooling from the wind and sunlight, and effects on the building and site from seasonal weather changes. Replacing certain trees on a site with architecture can increase the amount of wind and sunlight by or into the building; this, in turn, has an effect on the spatial layout and the comfort of the inhabitants of the building. Furthermore, replacing the landscape elements of a site with a building can lead to a decrease in air quality, especially if the building produces gasses or other waste materials. Also, trees can be utilized in architectural design to serve as shading from the wind or sun or protection for the building and its users from rain or snowfall. David Wann, the author of the book Biologic: Designing with Nature to Protect the Environment, declares, "In urban environments, trees are the Renaissance men of the landscape, providing natural air-conditioning, air-pollution filtration, soil erosion control, and aesthetic backdrop all at once" (Wann 20). If trees and other earth forms can serve as a benefit for the earth, humans, and the buildings we inhabit, architects should not take away something that will work with and provide a benefit for the architecture they create.

Physical consequences of architecture placed on a site include clearing the land of all or most of the existing landscape features. Although most buildings cannot be designed to preserve every element of the earth, there are various methods in which the architect can design the proposed building around the existing landscape. Furthermore, if one or more plants is taken away, this may have a negative effect on the surrounding plants or ecosystem as a whole, which may not be able to survive and thus will have to be cut down or dug up from the earth and taken away. If the physical makeup of the site is altered or completely erased, this may have an effect on the ground conditions, including the soil, of the earth on which the proposed building sits.

The main visual implication of placing architecture on a site deals with disturbing the beauty of the site in its existing naturalized condition. When designing a building, architects should create architecture that serves to respond to or enhance the beauty of the earth. Whether it is with a single tree or plant, a garden of various plant types, or a larger forested area, the naturalized world provides us humans with qualities of beauty that the manmade environment cannot produce. John Ruskin, the author of the book The Poetry of Architecture, adds, "The efforts of man [that] can enhance the beauty of natural scenery, those are the most effective which can give animation to the scene" (Ruskin 9). Instead of approaching site design with only the proposed building in mind, architects should incorporate care for the beauty of the site into the design. Although humans can plant new trees and other plant types, this does not create the same type of beauty existing in a naturalized site that has been untouched by man. With preserving the beauty of the surrounding the site, the

architect is also creating a benefit for the future inhabitants or users of the proposed building; each of these individuals will then have a chance to view and be surrounded by the beauty of the land. If something as simple as preserving the beauty of the land that came before us in the design of architectural buildings will have an impact on the potential future visitors to the site and the proposed building, then architects should leave the surrounding landscape in its existing, untouched state; the beauty of the land will then add a quality of beauty to the created architectural form.

Architects can take two approaches when using the site's features in the design. The literal approach to this occurs when one or more of the site's landscape features is cut down or cleared away. These materials can be recycled and used in the structure, form, or as a featured design element of the proposed building. For example, trees that get cut down can be used for the building's walls, columns, or furnishings. If all or portions of an existing hill on the site is leveled, the earthen material could be implemented in the design of the roof of the building or be built up against the exterior walls of the building as to act as a berm or embankment. Ron Broadhurst, the author of the book Houses: Modern Natural, Natural Modern, states, "[Architects should create] projects . . . that are either composed of natural materials or maintain an engaging relationship to the natural landscape, or both" (Broadhurst 9). Some examples of architecture which uses the materials from the site in the design are log cabins and tree houses. Each uses the existing trees, either in their natural upright or cut down state, to create the walls and other structural components of the buildings. While these are examples of small-scale architecture, even if these design strategies do not directly transfer to architectural projects at a larger scale, concepts from the log cabin and tree house designs can be utilized and incorporated into the larger building designs.

A visual approach to using the site's features in the design is similar to that of the concept of biomimicry. However, in this case, the building does not have to be designed to look like forms of the earth; the designs of the exterior or interior of the building can use materials or colors which create the appearance of the building blending in with its surroundings. The architect can incorporate colors of the surrounding site into the design, such as the green or brown colors from the trees or different colors from any surrounding plants, to make the building more visually appealing to its users, as well. Charles G. Woods, the author of the book Natural Architecture: 40 Earth Sheltered House Designs, suggests, "Holistic design is the environment – its geography, topology, history, climate, and color and materials" (Woods xii). The color and materials used on the exterior of the building have just as much importance as the siting and form of the building when designing for the site. If the materials or colors used on the building are too contrasting to the surroundings of the site, then the building may seem to be disconnected in its visual and overall relationship with the site. However, if the building uses the materials and colors that allow it to blend in with the surroundings, then the building's relationship to its site will become more visually evident and strengthened.

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Designing a building around the features of the site is yet another method an architect can use when designing for the site. In terms of site preservation, this design method is one of the best for leaving the site in its existing condition. The concept mainly involves the layout of the spatial plan of the building. The rooms of the building can be arranged around existing trees or hills, thus creating an interesting spatial layout and overall building form. Furthermore, designing around the site's features gives the architect the opportunity to capture interesting views of the site or highlight certain portions of the site by creating windows or openings in these areas to frame the views. By creating these views, the architect is also designing the building with the future inhabitants or users of the building in mind, especially with thinking of how the future inhabitants will use and spend time in the spaces throughout the building, which is another means of creating a successful building design. If the architect designs around the trees or hills of the site, this allows careful attention to be paid to the features of the site that came before the architecture and which may have some importance to the life, quality, and appearance of the naturalized site as a whole.

When faced with the issue of differing landscape or topography forms, the architect can approach the building design on the site in several ways. Whether the site is mainly flat, has a slight or steep slope, or has varied topography or if the site has one, several, or many naturalized landscape elements, the architect can refer to or use these features in the design. Flat land is one of the easiest land forms on which to create architecture, however, it involves one of the least interesting and challenging building construction methods. Architecture built on flat land often has to be designed with elements or forms different than the flat land on which the building sits; if a building stands out or contrasts its site, as in the case of most of the architecture on flat land, this diminishes the relationship or coherence the architecture has with its site.

Slight or steeply sloped sites provide the architect with an opportunity to design a building on those slopes in several ways. For example, the building could cantilever out over the sloping land, the architect could design retaining walls next to the sloping land on which the architecture could be placed, or the architecture could cantilever over the slope and be supported by pilotis or columns. In addition, designing a building on sloped sites also gives the architect several choices of building placement, size, and organization. The roof of the building can also have a slope similar to the slight or steep slope of the land. Preserving the existing slope of the site will help the architect and inhabitants of the building understand the site as it existed before the addition of the architecture and the relationship of building with its site will become more evident, as well.

Architecture on a site with varied topography can respond to the site in a manner similar to those previously listed for sloped sites or the architect could design the building to span across several different topographies of the site, if the site's current condition allows

for this to occur. Architects could design the floor plan of the building with the main floor existing on the lower sloped land or at the foot of a steep slope and the upper floors built up from the top of the steeper sloped land. In addition, the walls or roof of the building could also be designed to mimic the varied slopes of the land. Russell Walden, the author of the book Triumphs of Change: Architecture Reconsidered, states that architects should create architecture that highlights "the way the walls echo the volatility of the surrounding topography" (Walden 198). Creating architecture that mimics the slope of the land, instead of creating a simple building form such as a box or cylindrical shaped building, for example, not only forms a better relationship between building and land, it also makes the architecture more visually appealing and adds more interest about the building for its users.
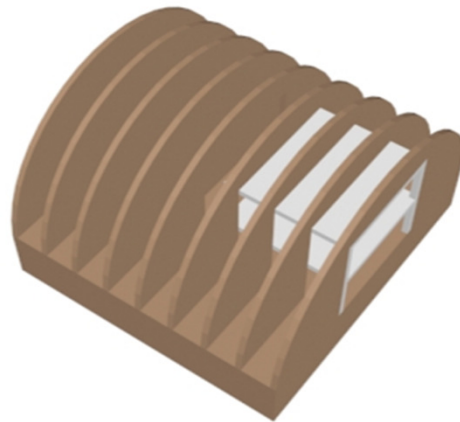

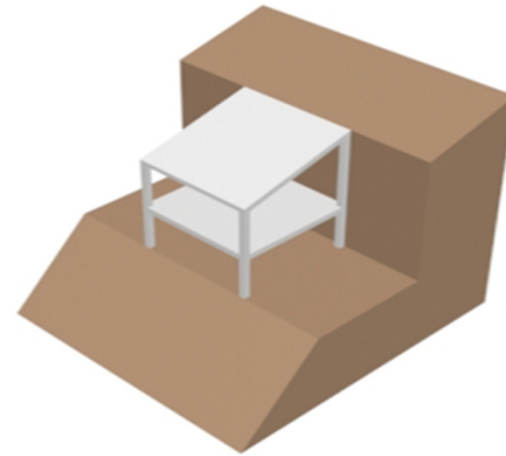**IMAGE 04**   **IMAGE 05**   **IMAGE 06**

Sites on which most of the naturalized landscape elements have been cleared away and where only one landscape form remains gives the architect an opportunity to design the building around this single landscape element or design the building form and layout to create a "showcase" for this single tree or plant on the site. The building layout can be designed to have the single landscape element located in the center of the building layout or the building itself, along the side, or in front of the architecture. The height of the building could also be similar to that of the landscape feature, if it is a tall tree, or the building could have a lower height if the lone landscape element is a smaller tree or plant, in order for the building to not take focus away from this element. Outdoor or indoor spaces could also be created as a means for the users of the building to view this sole landscape element.

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Architecture on sites with several existing landscape features can be designed similar to the manners listed for sites with single landscape elements. A grouping of trees or other plants on a site also affords the opportunity for the architect to create an outdoor space around these features. In addition, if the several landscape elements are trees which are spaced a certain distance from each other, for example, the space in between the trees can be used to create a structure such as a tree house or gazebo to be used by the future inhabitants of the building. Designing with features of a site while designing for the site is beneficial for creating a relationship between building and site; using, instead of abusing, the existing landscape is also a unique and advantageous method of preserving the earth.

If the selected site is forested or has an abundance of trees or plants, then the architect can design the building form near or adjacent to the landscape features as long as the building does not harm or clear away the naturalized elements. Although this approach does not allow for a large floor plan in some cases, the easy solution for the architect in this case is to create the building with several floors, if needed, to incorporate all necessary spaces and functions of the proposed building. Furthermore, the architect can create several buildings throughout a forested site and connect them either by indoor hallways or outdoor covered paths or walkways leading to the next building. The floor plan of the building can also be arranged in the spacing pattern of the existing trees or the architecture could be designed so that the exterior walls create frames or box off the existing trees to avoid having to clear them away from the site for the benefit of the building.

In order for the architect to design architecture for the site, he or she needs to fully understand the ideas behind land preservation as well as gain knowledge and understanding of all aspects of the site, whether seen or unseen. The philosophy of preserving the earth includes topics involving the treatment of the naturalized condition of the site by both human beings, including architects, and the buildings created for some human benefit or purpose. Furthermore, the architect needs to understand the future impacts the created building or buildings may have on the surrounding land. Architecture can be designed to respect, mimic, form a relationship with, or blend in with the naturalized environment of the site on which the architecture is placed. The building form, materials, and functional layout all can relate or respond to the landscape features of the earth, as well. According to Christian Norberg-Schulz, "the earth is the 'stage' where man's daily life takes place" (Norberg-Schulz 40). With the earth as the stage and the architecture as the performance, if the architect creates the architecture with reference and reverence for the earth, the architect can create a product that creates a successful relationship and lifestyle with the earth for the many future users and inhabitants of the building to come.

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PRECEDENT STUDY 1: RESIDENCE IN DAISEN

The Residence in Daisen is a residential building in Japan. It was designed by Keisuke Kawaguchi + K2-Design. The architecture is sited within a forest such that little to no damage was caused to the existing trees from the building's design and construction. In the article "Residence of Daisen by Keisuke Kawaguchi+K2-Design" Keisuke Kawaguchi states, "Sensitive dialogue with the site is requisite to building a house that lies in coexistence with nature. . . . Our building plan was drafted according to this idea" (Griffiths 1). Although the materials used on the exterior of the Residence in Daisen building contrast the naturalized surroundings, the building as a whole seems to create a harmonious relationship with its site because of the way in which it "zigzags" through the trees.

Furthermore, the structure of the building was created to have as little of an impact on the site's trees and ground cover. Kawaguchi adds, "The house is raised off the ground on pillars to prevent snow from drifting against it in winter, and to stop moisture and heat from the ground penetrating the floors in summer" (Griffiths 1). A relationship thus is formed between building, site, and the processes of the earth.

Several portions of the building's interior respond and relate to the surrounding site. For example, throughout the building there are many windows that frame views of the surrounding forest. Some of the materials used in the interior rooms of the Residence in Daisen building are of similar colors to the surrounding trees and forested area, as well.
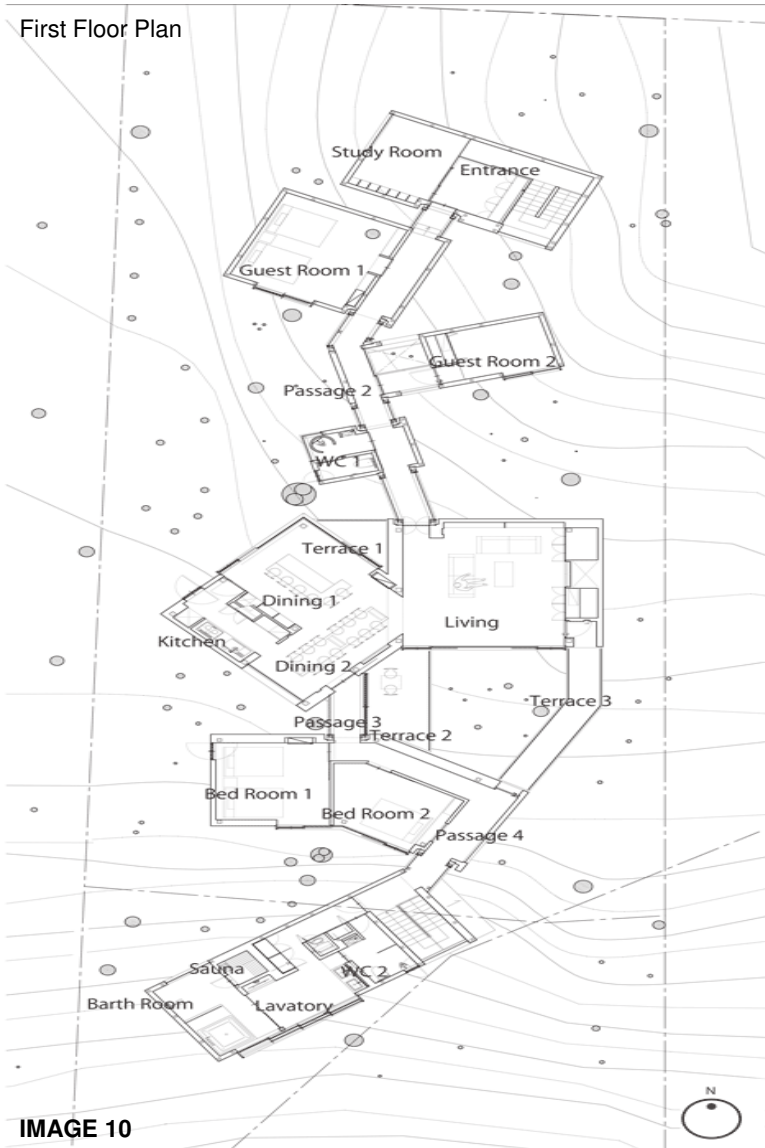

IMAGE 07

IMAGE 08

Ground Floor Plan

Garage

Main Bed Room

IMAGE 09

First Floor Plan

Study Room

Entrance

Guest Room 1

Guest Room 2

Passage 2

WC 1

Terrace 1

Dining 1

Living

Kitchen

Dining 2

Terrace 3

Passage 3

Terrace 2

Bed Room 1

Bed Room 2

Passage 4

Sauna

WC 2

Barth Room

Lavatory

IMAGE 10

Section Details

IMAGE 11

Elevation

IMAGE 12

IMAGE 13

IMAGE 14

IMAGE 15

IMAGE 16

20

PRECEDENT STUDY 2: THE BRIDGE HOUSE

The Bridge House is a small home in Australia. It was designed by Max Pritchard Architect. The architecture bridges across two hills and a small body of water. The building itself has a minimal impact on the surrounding site; structural elements which support the house are the only objects interfering with the earth below. In the article "Bridge House/Max Pritchard Architect," the author writes, "The design [involves] a narrow house form, [which] spans over the creek. Glazing each side opens the house to views in both directions, giving the feeling of living amongst the trees" ("Bridge House" 1). Materials used throughout the Bridge House differ from the building's naturalized surroundings, however, the placement of the architecture shows it and the architect's respect for the land.

Although the materials used do not have a visual connection with the surrounding site, numerous windowed areas were incorporated into the design, as to create a connection between the house's inhabitants and the outside world.

Simplicity exists in the floor plan and structural layout of the building, which includes, "two steel trusses forming the primary structure . . . were anchored by four small concrete piers, poured on each side of the creek. Spanning between the trusses is a concrete floor slab on steel decking with a layer of rigid insulation" ("Bridge House 1). Several simplified heating and cooling technologies were incorporated into the design, as well. With its minimal impact on the ground and energy efficient systems, the Bridge House forms a successful relationship with the earth.
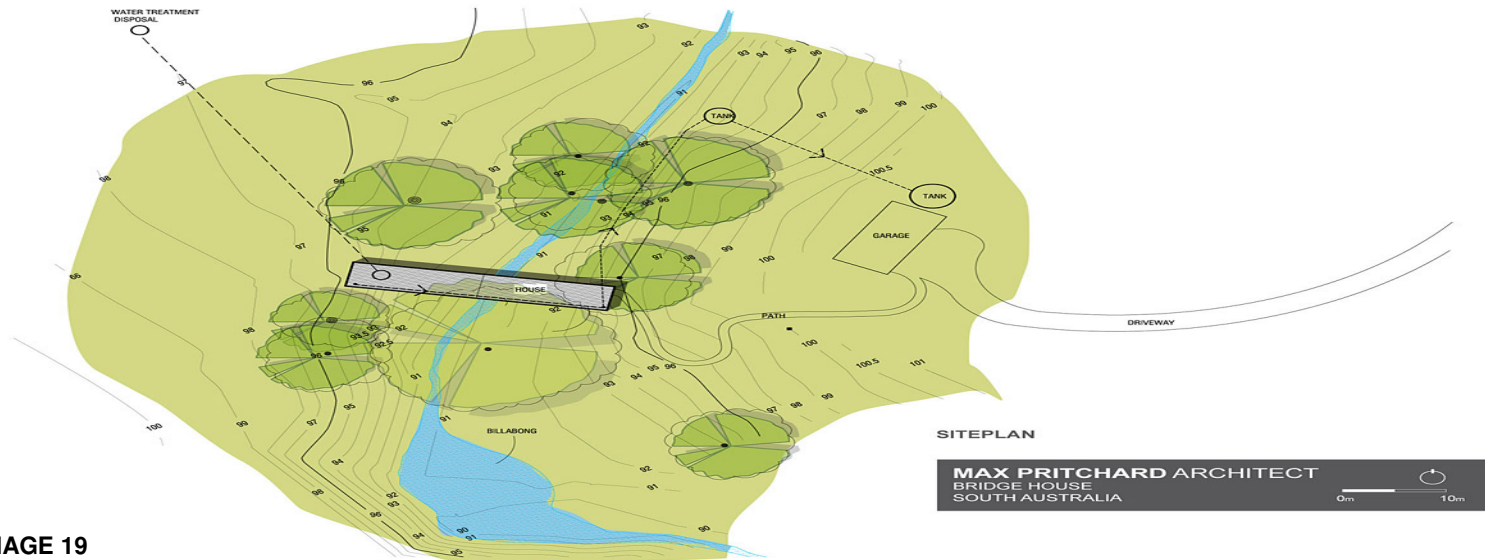

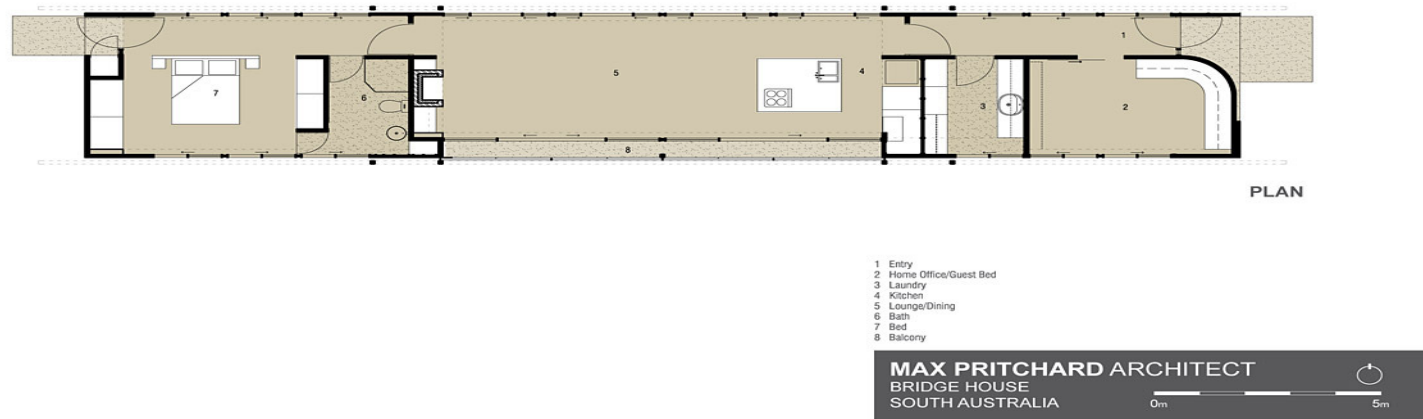IMAGE 17

IMAGE 18

IMAGE 19

SITEPLAN

MAX PRITCHARD ARCHITECT
BRIDGE HOUSE
SOUTH AUSTRALIA

0m   10m

PLAN

1 Entry
2 Home Office/Guest Bed
3 Laundry
4 Kitchen
5 Lounge/Dining
6 Bath
7 Bed
8 Balcony

MAX PRITCHARD ARCHITECT
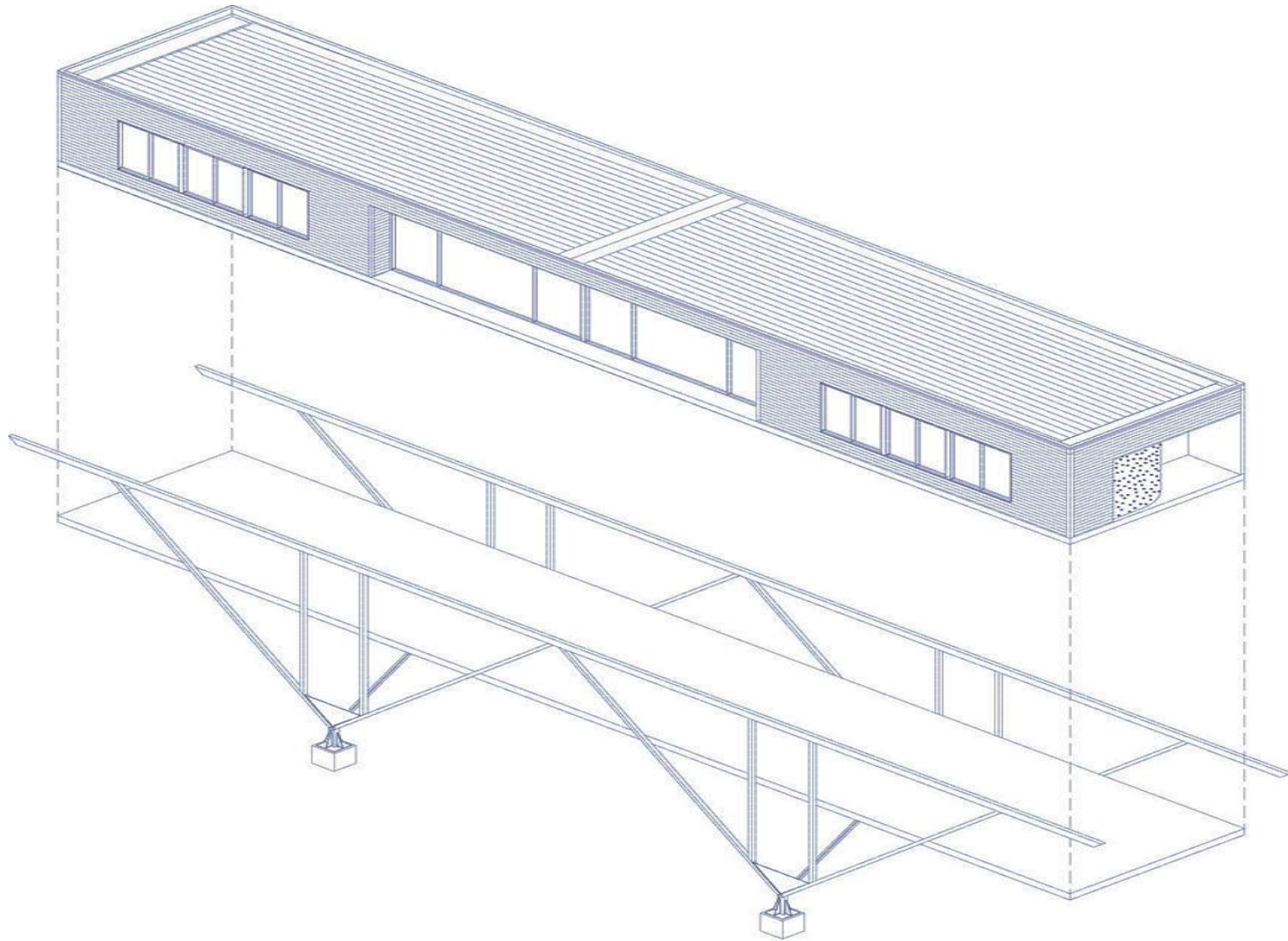BRIDGE HOUSE
SOUTH AUSTRALIA

0m   5m

IMAGE 20

IMAGE 22

IMAGE 23

IMAGE 24

24

PRECEDENT STUDY 3: FINCA BELLAVISTA

Finca Bellavista is a village of treehouses in the rainforest in Costa Rica. According to Cat Garcia Menocal, the author of the article "Finca Bellavista: A Sustainable Treehouse Community, Costa Rica":

> "The idea of creating a veritable self-sustaining community was born as a way to make the 62 acre site more possible to acquire as well as fully integrate the built form into the landscape. . . . The whole of the property is now a 600 acre complex connected by zip lines and suspension bridges" (Menocal 1).

IMAGE 25

Each treehouse building has a different design and is placed either at ground level or at varying heights if the structure is attached to the existing trees. Inhabitants can view or immerse themselves within the surrounding site throughout all locations of the village.

Along with preserving the existing naturalized landscape features, the treehouses of Finca Bellavista utilize "a biodigester, which generates electricity and heat with a waste-to-energy process, and the architecture is optimized to make the most of cross-ventilation, passive natural lighting and responsible building systems" (Menocal 1). The simplicity of the treehouse designs and their mechanical systems create a minimal impact on the environment. Finally, Finca Bellavista utilizes all naturalized elements of the site without destroying them physically or visually.

IMAGE 26

IMAGE 27

IMAGE 28

IMAGE 29

IMAGE 30

26

IMAGE 31

IMAGE 32

IMAGE 33

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Menocal, Cat Garcia. "Finca Bellavista: A Sustainable Treehouse Community, Costa Rica." Designboom Magazine. 22 May 2013. Web. 2 Jan. 2014. <http://www.designboom.com/architecture/finca-bellavista-a-sustainable-treehouse-community-costa-rica/>.

SELECTED SITE LOCATION: HARBOR SPRINGS, MICHIGAN
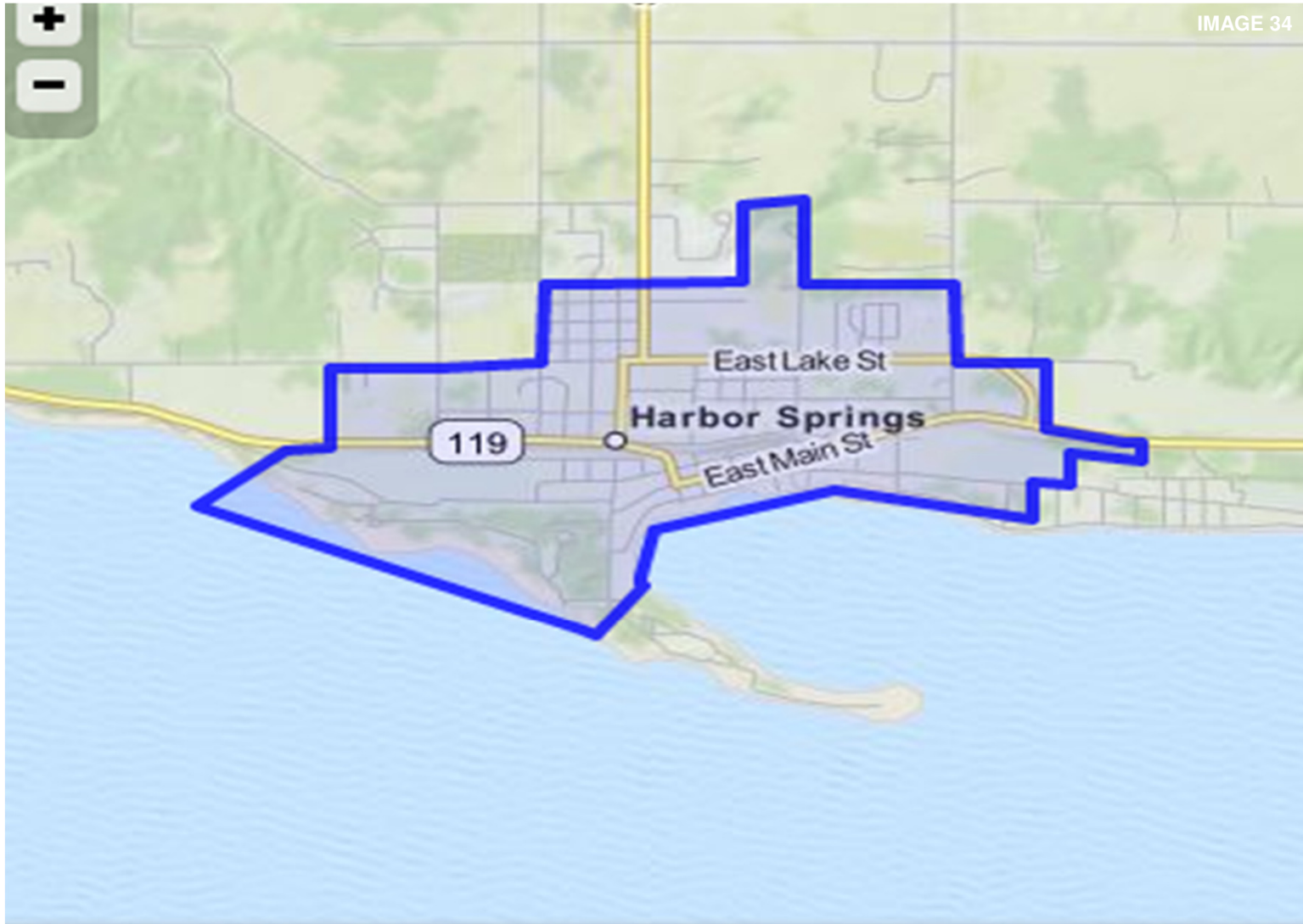
A BRIEF HISTORY OF HARBOR SPRINGS, MICHIGAN

According to the Harbor Springs Area Historical Society, which created the editorial titled "A History of Harbor Springs," "By 1881, the small town called Little Traverse had been organized as the Village of Harbor Springs" (HSAHS 1). However, the first presence of human beings in this area occurred long before this date; several Native American Tribes, such as the Ottawa Indian Tribe, had called this land their home for many years prior to Harbor Spring's official formation. The Native Americans lived off of this land freely and prosperously until European Immigrants arrived in the area to take control and ownership of the abundance of land.

The presence of new cultures brought about new groups and activities to the Harbor Springs area, as well. The HSAHS adds, "Jesuit missionaries encouraged the Indians to join them at a new mission they called New L'Arbre Croche in 1829, . . . a trading post [was established] along the waterfront in 1854, . . . the small town continued to grow when, in 1874, Emmet County was open to settlement, and by 1878, resorts were being formed" (HSAHS 1). With the new industries and residents of Harbor Springs and the surrounding areas, the land became an area for economic opportunity and growth rather than just land to live off of, as it was before. Furthermore, with the southern border of Harbor Springs located along the Little Traverse Bay of Lake Michigan, from the late 1800s on, the area has grown to include people, merchandise, and industries arriving at sea from near and afar.

Today, Harbor Springs is home to many businesses and attractions , both indoor and outdoor, for local residents and tourists to enjoy. The HSAHS writes, "In its history, Harbor Springs has been a center of trade, a lumbering boom town, a destination of ships and trains from the Midwest and beyond. Although the industries have changed over the years, the natural beauty of the area continues to make Harbor Springs a destination" (HSAHS 1). With its reverence for its history, scenery, and abundance of activities, products, and industries, Harbor Springs, Michigan has grown into a prosperous community, city, and location to visit.
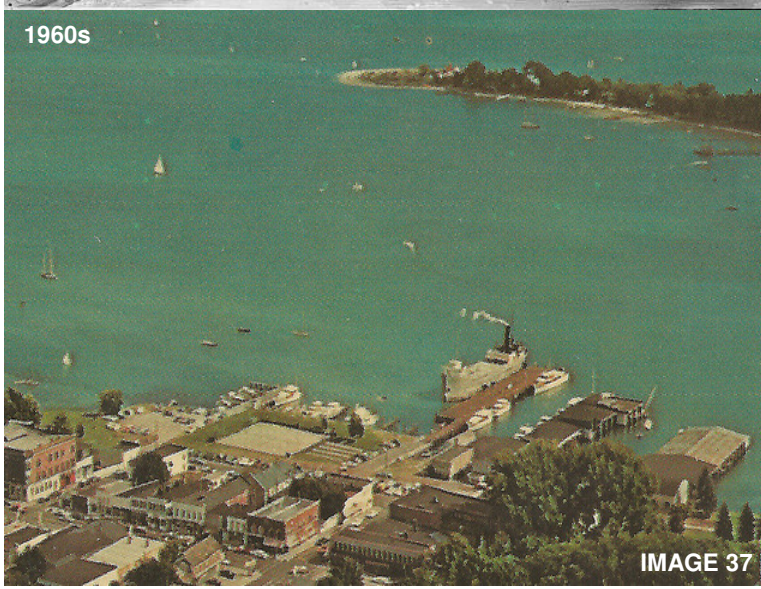
LATE 1800s

IMAGE 35

LATE 1800s

IMAGE 36

1960s

IMAGE 37

1960s

IMAGE 38

OTTAWA INDIAN TRIBE'S PRESENCE IN HARBOR SPRINGS

        One group that has made a lasting presence in the Harbor Springs area is the Ottawa, or Odawa, Indian Tribe. The history of the Ottawa Indians is well documented throughout the area and the tribe has had an important role in the formation of Harbor Springs and the surrounding cities. The Harbor Springs Area Historical Society suggests that, "the first permanent settlement of Odawa Indians began north of Harbor Springs circa 1740" (HSAHS 1). For many years, the Ottawa Indian Tribe had a successful lifestyle which included hunting, fishing, and trading, to name a few. However, with the European Immigrants' search for more land to develop, the Ottawa Indian Tribe's successes soon turned into struggles. Theodore Karamanski, the author of the book <u>Blackbird's Song: Andrew J. Blackbird and the Odawa People</u>, states, "The decades of the 1820s, 1830s, and 1840s were a period of crisis for the Ottawa. . . . It was a time [in which] . . . young men and women who, like Andrew Blackbird (IMAGE 41), [the Ottawa Indian Chief], knew their place neither in the changing world of L'Arbre Croche nor in the onrushing, alien world of the white man" (Karamanski 24). Along with their land being taken away, the Ottawa

IMAGE 40

IMAGE 41

Indian Tribe faced other hardships and challenges, such as widespread illnesses, conversion to Christianity, and loss of freedom. Karamanski adds:

> "The beauty and plenty of L'Arbre Croche masked a history of tragedy and death that haunted the landscape. In his history, Andrew Blackbird later recounted how in times past a smallpox epidemic had killed much of the village's original and larger population. . . . In confronting a Janus-faced American Indian policy, [the Ottawa Indians] chose to embrace the face that offered civilization and Christianity as a way of avoiding the face that threatened loss of land and removal" (Karamanski 6, 40).

As the aforementioned events occurred, the Ottawa Indian population in the Harbor Springs area declined; many of the Ottawa Indians died from the diseases and many others left the area after being forced off their land. Those that remained began living alongside their European neighbors. Some of the Ottawa Indian members attended school or worked with the European settlers, while others practiced Christianity. Although many new ideas and lifestyles were brought upon the Ottawa Indians, they never forgot the heritage and culture of their ancestors. Furthermore, to protect and retain the culture of their ancestors, the Ottawa Indians were successful in forming several treaties with the United States Government, such as "the 1836 Treaty of Washington, [which] was the most important agreement the Indian peoples of western and northern Michigan ever made with the United States. . . . This treaty provided a legal framework and political opportunity so that Ottawa people could continue to live within their culture" (Karamanski 78). Other treaties involved issues such as land, money, and citizenship for the Ottawa Indians.

For many more years the Ottawa Indian Tribe faced difficulties with ownership and the laws of the land. There was a continuance of Native Americans leaving the Harbor Springs area in search of land to call their own. For the Ottawa Indians that remained, they lived on the designated land reservations or they were offered specific sized land plots for a certain price. Although land plots were offered to the Ottawa Indians, the government was not always clear or fair in their handling of this issue. Matthew Fletcher, the author of the book The Eagle Returns : The Legal History of the Grand Traverse Band of Ottawa and Chippewa Indians, writes, "From the 1870s on, the communities of Ottawa and Chippewa Indians living in the Grand Traverse Bay region continued to band together for political, economic, and family reasons. But the federal government generally refused to assist the community in preserving its land base and in improving living conditions on the grounds that the trust relationship between the United States and the tribe had been severed" (Fletcher 91). Despite the issues between the Ottawa Indian Tribe and the United States Government, during the 1900s, the Ottawa Indians continued to live, become

34

educated, and work alongside the citizens of Harbor Springs and the surrounding areas. As the Ottawa Indians became more "Americanized," however, they never lost sight of their history, beliefs, and culture. Many of the Ottawa Indians still performed the songs, dances, and rituals of their ancestors. As the years went on, although the number of Ottawa Indians in the Harbor Springs area diminished, their respect for their past did not.

Today, the Little Traverse Bay Band of Ottawa Indians still resides throughout the Harbor Springs area. Many of the local shops, galleries, and museums showcase the artifacts, stories, and history of the local Ottawa Indian Tribes. Karamanski adds, "Together [Andrew Blackbird's] book and the little museum remind both resort visitors and white citizens of this privileged corner of the Great Lakes region that before the yachts and beach houses, Little Traverse was Indian country" (Karamanski 237). For the Ottawa Indians of yesterday and today, Harbor Springs has been an area of tragedy and triumph; the many efforts and sacrifices of the Ottawa Indians, both past and present, have made Harbor Springs and the surrounding areas a land of rich history, culture, and community.


IMAGE 42   IMAGE 43

Works Cited

"A History of Harbor Springs." Petoskey Area Visitors Bureau. Harbor Springs Area Historical Society. Web. 4 Jan 2014. <http://www.petoskeyarea.com/harbor-springs-77/>.

Fletcher, Matthew. <u>The Eagle Returns: The Legal History of the Grand Traverse Band of Ottawa and Chippewa Indians</u>. Lansing: Michigan State University Press, 2012.

Karamanski, Theodore. <u>Blackbird's Song: Andrew J. Blackbird and the Odawa People</u>. Lansing: Michigan State University Press, 2012.

CURRENT CITY ATTRACTIONS

Harbor Springs has many indoor and outdoor activities for people of all ages to enjoy. One of the activities that is adjacent to the selected site is the M-119 Tunnel of Trees. As shown in the map, the Tunnel of Trees spans twenty miles along the part of M-119 that goes from Harbor Springs, Michigan to Cross Village, Michigan. The Tunnel of Trees consists of a long stretch of road that is bordered by many trees and other plants of various species, which form a "tunnel" over the road. The water of Lake Michigan can even be viewed from the road of the Tunnel of Trees at various locations along the route. Residents and visitors of the area can travel along this stretch of road by bicycle or car throughout all seasons of the year.

IMAGE 44

IMAGE 45
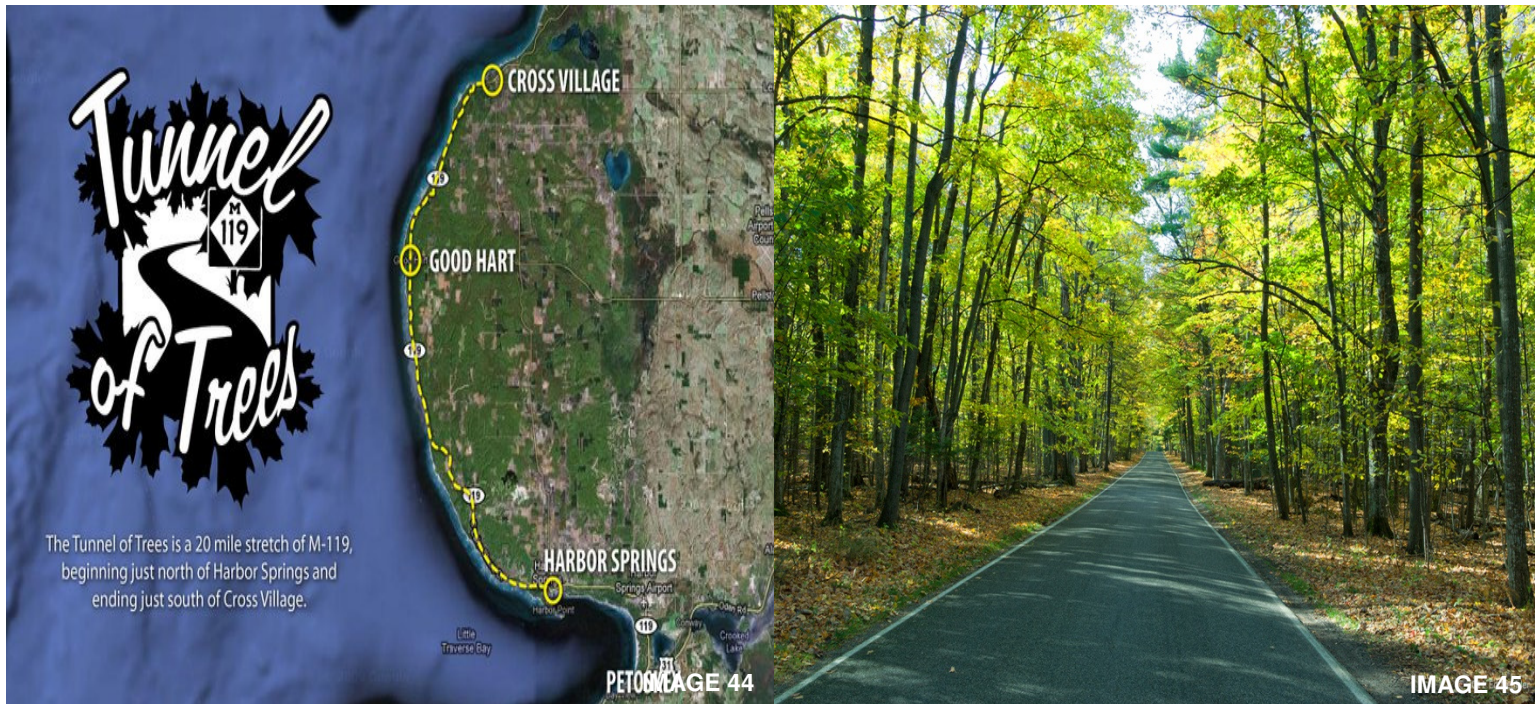
Another attraction of the Harbor Springs area that is adjacent to the selected site consists of three adjacent nature preserves, namely the Thorne Swift Nature Preserve, the Edwards Nature Preserve, and the Weimer's Lake Nature Preserve (IMAGE 48). According to the Little Traverse Conservancy, "Thorne Swift's size is thirty acres, . . . Edwards is a slim scenic buffer three acres long, . . . and the Weimer's Lake Nature Preserve consists of twelve acres and lies adjacent to Thorne Swift Nature Preserve" ("Nature Preserves & Natural Areas" 26, 27, 29). Trails and a nature center, along with a portion of the beach along the shore of Lake Michigan, exist throughout the Thorne Swift Nature Preserve, a lake and some paths are found in the Weimer's Lake Nature Preserve, and, since the Edwards Nature Preserve exists on the steep bluff, the existing plant and animal life throughout the three acre strip of land can be seen while traveling along Lower Lake Shore Drive.
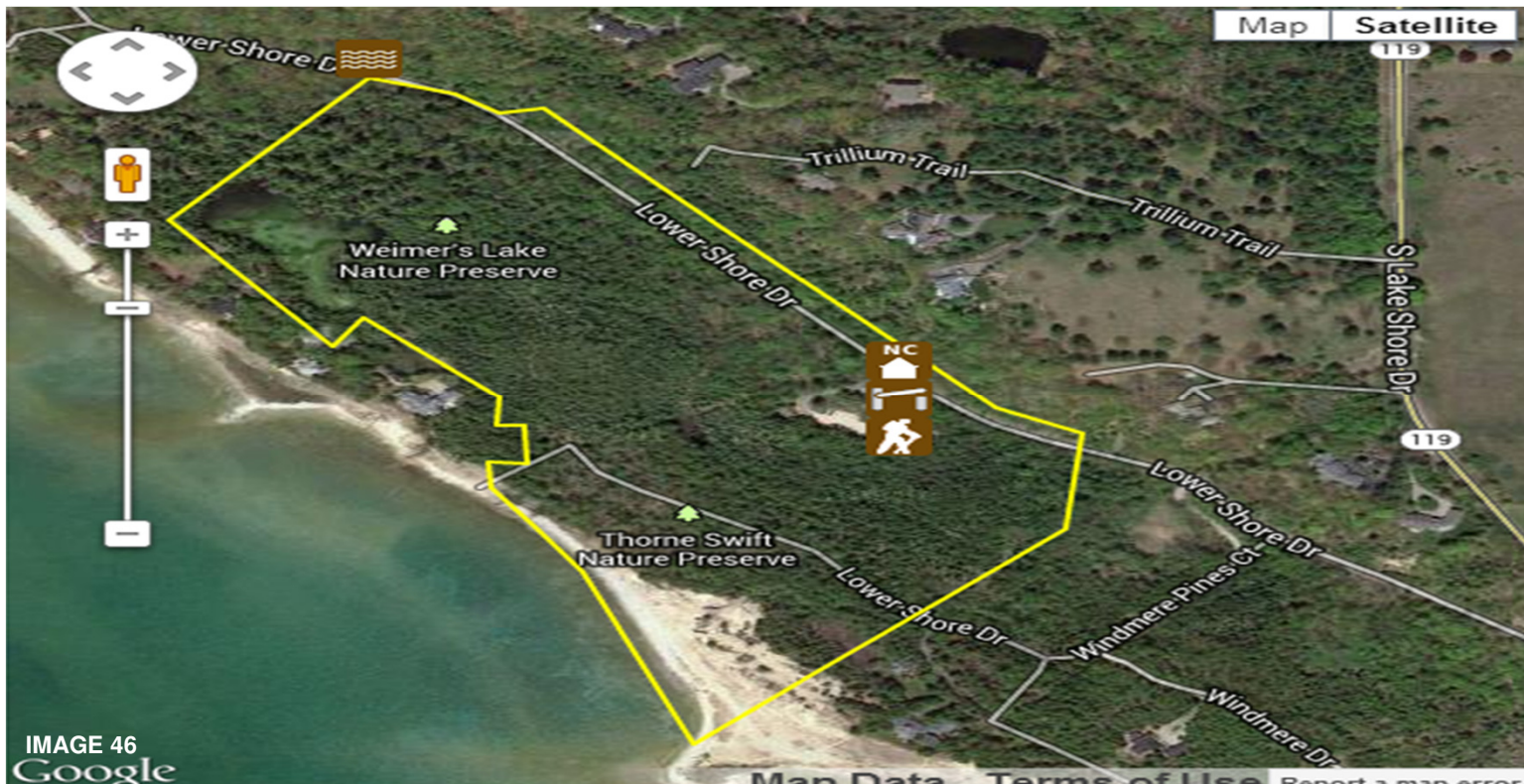

IMAGE 46

IMAGE 47

IMAGE 48

THORNE SWIFT
NATURE PRESERVE

A COOPERATIVE PROJECT OF
LITTLE TRAVERSE CONSERVANCY
AND
WEST TRAVERSE TOWNSHIP
EST. 1982

IMAGE 49

Indoor activities throughout Harbor Springs include art galleries, museums, shops, the local farmers' market, and wine tastings at the various vineyards and wineries, to name a few. Artwork and products from local artists and vendors are featured throughout many of the galleries and shops. Several of the events throughout the many shops and galleries of Harbor Springs occur seasonally, while others are open all year.

An abundance of outdoor activities exists throughout the Harbor Springs area, as well. For example, residents and visitors can hike, take bicycle rides, or relax at the beach. Furthermore, many activities occur in the Little Traverse Bay and Lake Michigan, such as fishing, swimming, and sailing. Whether residing or visiting Harbor Springs in the winter, spring, summer, or fall, there is always something new and exciting to do in the city or throughout the surrounding areas.

IMAGE 50

IMAGE 51
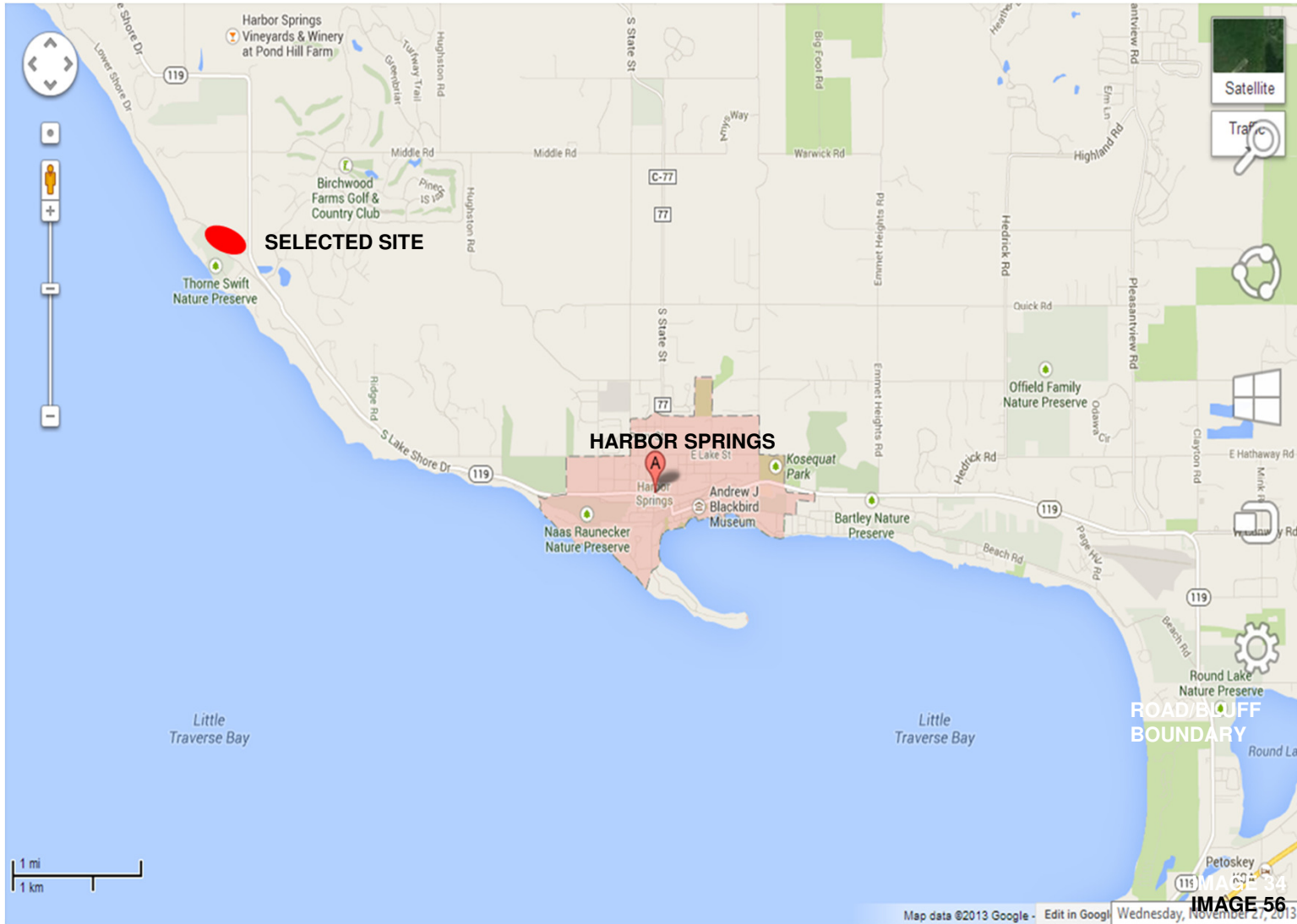
IMAGE 52

IMAGE 53

IMAGE 54

IMAGE 55

Works Cited

"Emmet County Nature Preserves." Little Traverse Conservancy's

       Guide to Nature Preserves & Natural Areas. Aug 2012: 26,

       27, 29.

SITE ANALYSIS

SELECTED SITE

HARBOR SPRINGS

ROAD/BLUFF BOUNDARY

IMAGE 56

43

ROAD/BLUFF
BOUNDARY

SELECTED SITE
BOUNDARY

IMAGE 57

Imagery Date: 5/12/2012   45°27'18.52" N   85°03'30.36" W elev 745 ft   eye alt   2494 ft

Google earth

44

The selected site is located outside the northern border of Harbor Springs in West Traverse Township, Michigan. The site is surrounded by residential buildings, a farm, the steep bluff, M-119, and the three aforementioned nature preserves. Vehicular access to the site occurs along its eastern and northern borders, namely M-119 Trillium Trail. Several species of trees are scattered throughout the site and create a visual border along the northern, southern, and western portions of the site. It appears as if portions of the site were once cleared for some type of development to occur. However, new tree growth has occurred in the cleared, open spaces throughout the site.

IMAGE 58

IMAGE 59

As a continued site analysis, line drawings and topography models, as shown on the following page, can be used to further understand all aspects of the site. The top two images at right portray the selected site, which is represented by the area within the dashed line shape, and the surrounding area around the selected site's perimeter, whereas, the bottom two images on the following page focus on the selected site at a larger scale. For the two line drawings, the colored layers depict the same information. The red lines represent topography lines, green is existing vegetation, the black lines show the roads throughout the site's surroundings, the dark blue shapes are the existing buildings, and the light blue shows the various lakes of the West Traverse Township area.

With regard to the topography of the site, the top two images have five foot topography intervals, however, the bottom two images have the typical one foot topography interval representation. Overall, the slope of the sight increases from west to east. The slope of the land is shallow along the western portion of the surrounding area where the land meets the shore of Lake Michigan, has a steep increase along the bluff area, and the slope continues to rise at various locations to the east of the selected site. The topography throughout the area of the selected site has a somewhat steady incline from west to east.

Several areas of dense vegetation exist throughout the selected site's surroundings, especially in the areas of the three nature preserves. In the area of the selected site, however, the vegetation is scattered throughout the land. A variety of tree and plant species exists throughout the selected site and its surroundings, as well.

Two major roads that run through the surrounding area of the selected site are M-119, or South Lake Shore Drive, and Lower Shore Drive. The other roads lead to the residential neighborhoods of the area. Residents or visitors of this area, if driving along M-119, will be traveling through the infamous "Tunnel of Trees" and can access two of the three nature preserves from Lower Shore Drive.

Aside from the nature center building located to the far south of the selected site, the remainder of the buildings are residential homes of various shapes and sizes. Some of the houses are located near the back of their property and have long driveways leading to the road, whereas, other houses are aligned along the other roads of the surrounding area. With the presence of several residential buildings in the areas surrounding the selected site, for the future proposed building, a more public function can be assigned to the proposal, as to attract new people to this area.

Finally, the bodies of water throughout the surrounding area are as follows: along the southwest corner of the site diagram is a portion of the Little Traverse Bay of Lake Michigan, the smaller body of water just to the east of the Little Traverse Bay is Weimer's Lake, which is located in the Weimer's Lake Nature Preserve, the small area of water to the north of the selected site is a small pond, and two larger ponds lie along the southeastern border of the selected site's surrounding area diagram.

46

IMAGE 60

IMAGE 61

IMAGE 62

IMAGE 63
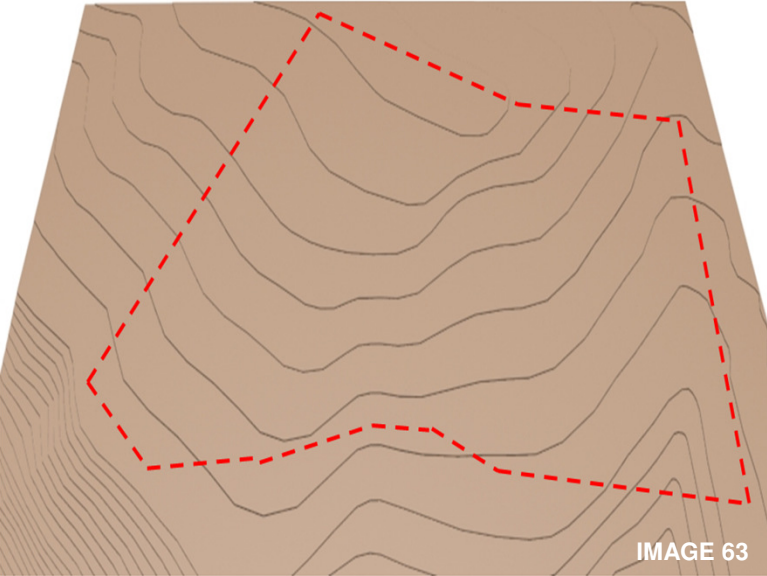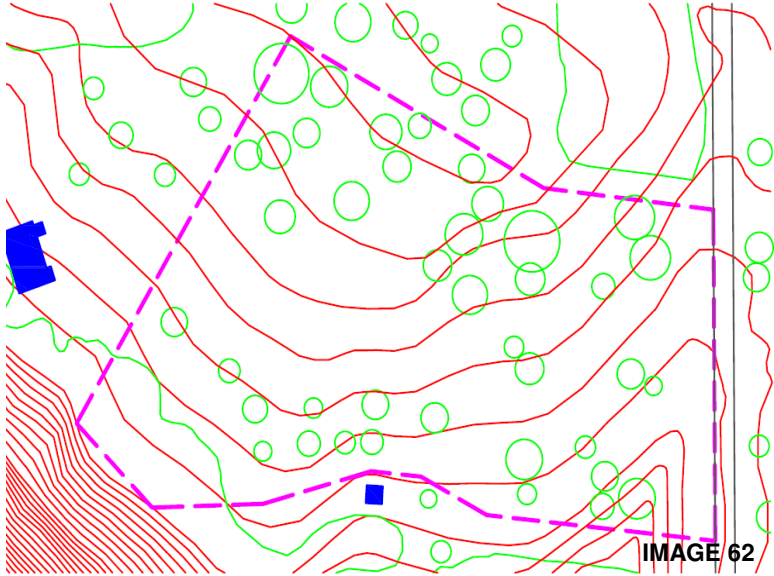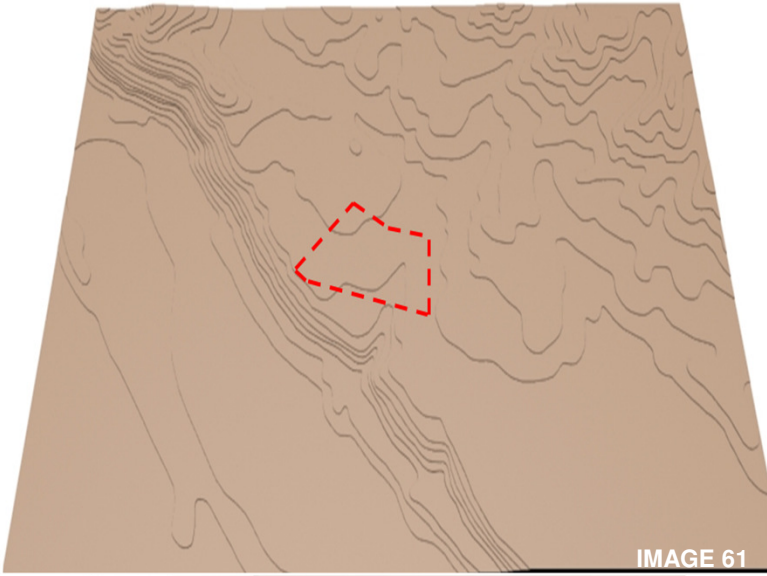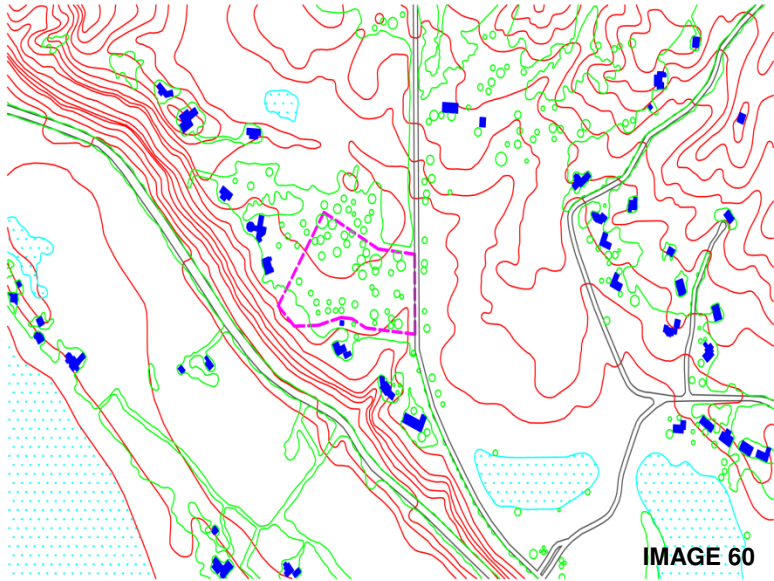
An important aspect of site analysis and designing for the site is learning what types of vegetation and other naturalized landscape features exist on the site, the life cycles and patterns of these plants, and how the site as a whole could naturally evolve if no land clearing takes place. Tree types of the selected site include sugar maple, red maple, red oak, balsam fir, white pine, and white birch trees, to name a few. Each of these tree types has a different growth pattern and size and has spread throughout the site in various locations. Due to the land clearing that has occurred at some point to the selected site, the land is undergoing a process known as "secondary ecological succession," which, according to www.biology-online.org is, "The ecological succession that occurs on a preexisting soil after the primary succession has been disrupted or destroyed due to a disturbance that reduced the population of the initial inhabitants. An example of secondary succession is the development of new inhabitants to replace the previous community of plants and animals that has been disrupted or disturbed by an event (e.g. forest fire, flood, harvesting, epidemic disease, pest attack, etc.)" ("Secondary Succession" 1). Since the entirety of the selected site was not destroyed during the land clearing, seeds from existing trees and plants have spread and new plant life continues to grow. Any future development to this site should take into account what the site may look like several decades from the present development time, as this will help form an understanding of the impact of any future development on the future naturalized condition of the site.

IMAGE 64
© 2006 Encyclopædia Britannica, Inc.

48
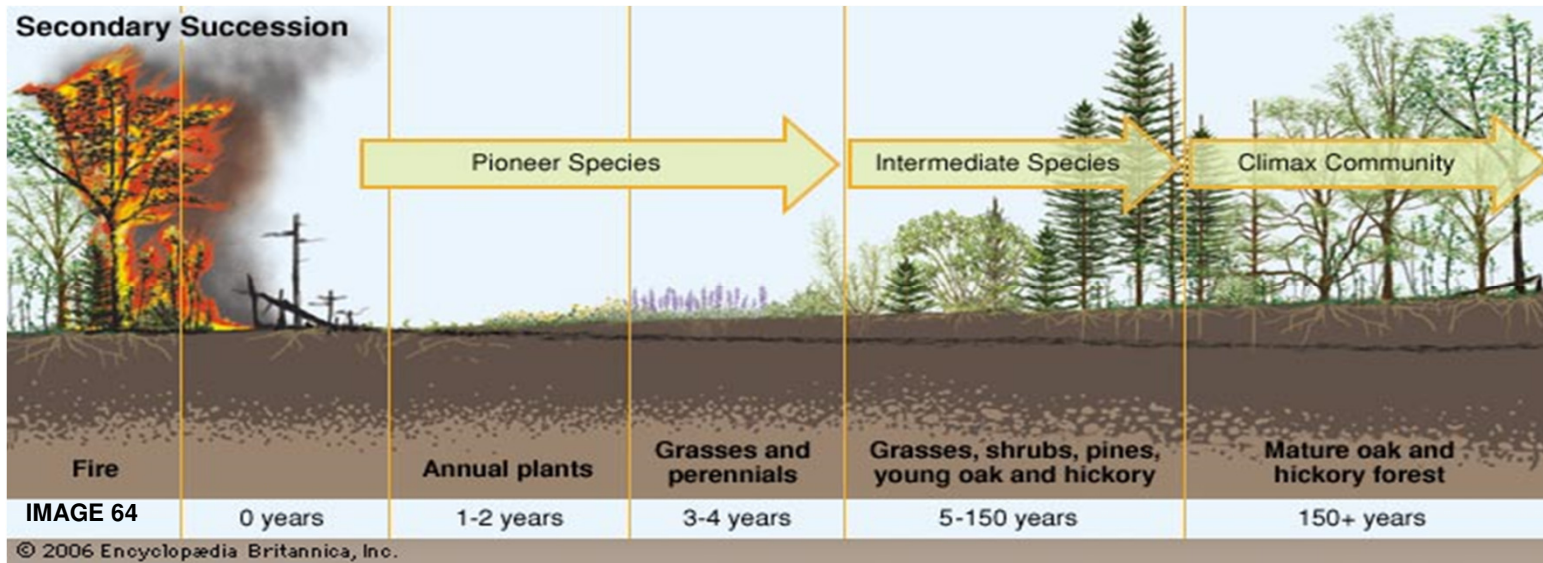
SUGAR MAPLE
IMAGE 65

Red Maple
Acer rubrum

Copyright © Robert O'B... IMAGE 66

RED OAK
IMAGE 67

BALSAM FIR
IMAGE 68

WHITE PINE
IMAGE 69

WHITE BIRCH
IMAGE 70

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According to the secondary ecological succession process, the land eventually develops into a "climax state." It takes many years for this stage to occur. As it is impossible to correctly predict the naturalized processes and life cycles of the earth, the two images at right show what the selected site may look like if it is left alone. Eventually, trees and other plants will grow to fill in the voids and gaps that currently exist throughout the selected site. Furthermore, new species of trees and other plants may be introduced over time to the site. With predicting the future naturalized life cycle of the site, this aids in the development and design decisions of future proposed manmade features that will be placed on the site.

50 YEAR PROJECTION
IMAGE 71

100 YEAR PROJECTION
IMAGE 72

50

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Online. 24 Jun 2009. Web. 5 Jan 2014.

<http://www.biologyonline.org/dictionary/Secondary_succe

ssion>.

VISIT TO SELECTED SITE AND THE SURROUNDING AREAS

Upon a personal visit to the selected site and the surrounding areas, a new perspective was gained about the tourist destination previously researched. After learning about the many activities in the area, the expected characteristics of the area differed from what was actually experienced. For example, in Harbor Springs, many of the shops were closed for the winter. Along with the cabins or residential homes along the road, many lots of land were empty or for sale. Also, there were not many people, other than the residents of the area, around; the drive through the Tunnel of Trees was shared by a few others who were either walking the area or driving down the road. Although there were winter activities, such as skiing, occurring in the area, these activities were not in the area immediately surrounding the selected site. The lack of people did not provide a distraction, however, because of the abundance of trees and other plants lined along the road and filling the surrounding land and the many deer that crossed the road during the drive along the tunnel. Exploring the beauty of the land produced an indescribable feeling of peace and awe of the naturalized features and overall scenery of the Harbor Springs area.
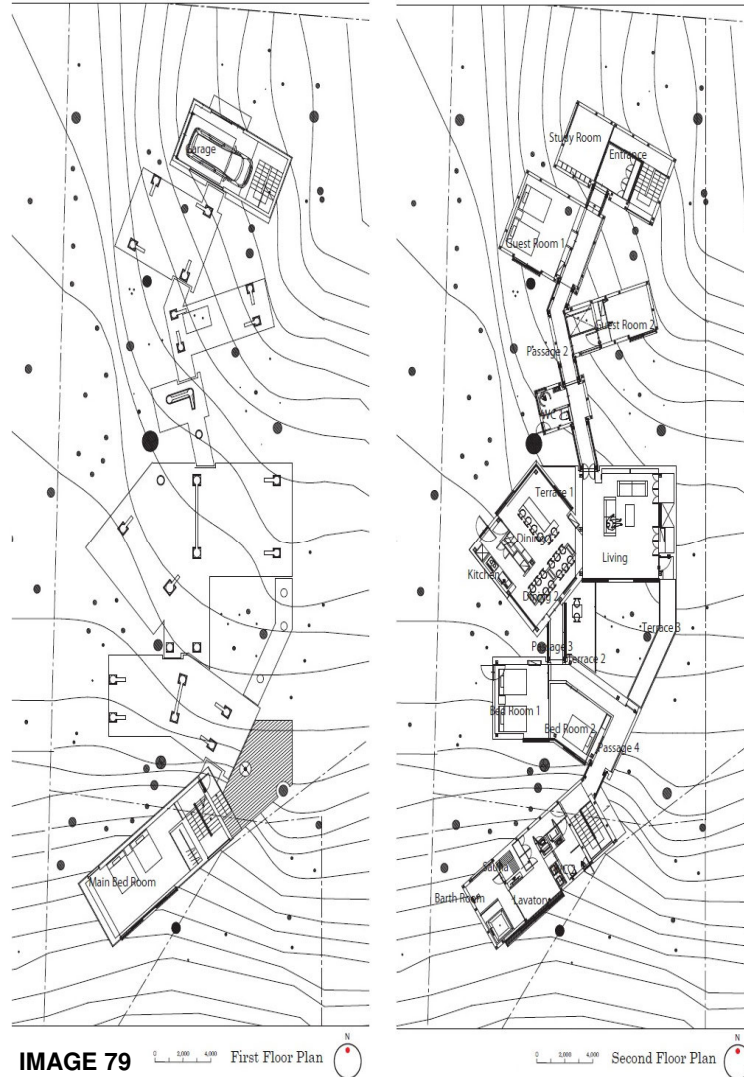

IMAGE 73

IMAGE 74

IMAGE 75

Waganakising
L'Arbre Croche
This was the name given by the French to the region from Cross Village to Harbor Springs because of a large crooked tree that stood on the crest of the bluff. Visible for many miles, it marked the center of a large Odawa Indian settlement.

IMAGE 76

Motchimanitou
Devil's Elbow
A flowing spring in this ravine was believed by area Odawa Indian Bands to be the home of spirits who made their presence known in this location during the hours of darkness.

IMAGE 77

Dibaagegaamtig
Area Of The Old Council Tree
In this area, beneath a large tree, tribal chief of the Menominee, Ojibwe, and Odawak held many councils in the late 1700's. The tree was also used as a navigational tool during seasonal migrations.

IMAGE 78

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SITE CASE STUDIES AND IDEAS

        For the proposed site design, studies were done on the placement of the proposed building, walkways, and parking and road. One idea regarding the placement and arrangement of the architecture on the site was to do so in a manner similar to the Residence in Daisen, in which the building layout corresponds to the arrangement of the existing trees on the site. In areas of the site where no trees currently exist, the building size would be smaller to allow for the growth of many trees and other types of vegetation surrounding the proposed architecture.

        Furthermore, the idea of placing the proposed architecture on stilts and having a raised walkway surrounding the building or buildings was explored. Since the topography of the selected site has a slight increase in slope, placing the proposed architecture on stilts would create a more stable, level surface for the architecture to rest on. Buildings raised on stilts would also minimize the impact of the architecture on the surface of the Earth.

        Proposed parking case studies include small areas of parking in which the pavement is dug into the earth and berms and hedges would be placed to serve as a physical and visual barrier between the proposed architecture and parking spaces. Access to the proposed architecture from the parking lot would be from a series of raised pathways. The creation of a smaller parking lot and access road also allow for more vegetation to grow throughout the site, which creates a successful relationship between architecture, its inhabitants, and the land.
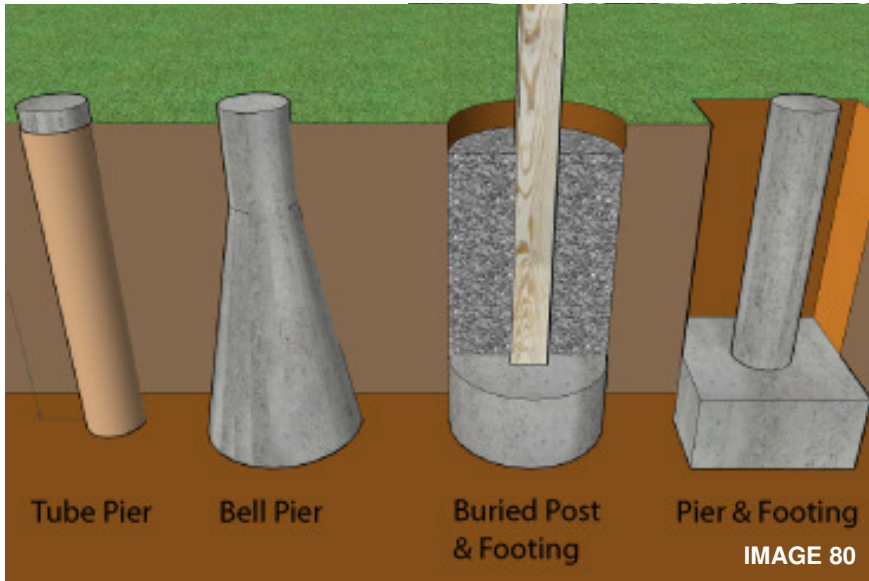

IMAGE 79 First Floor Plan   Second Floor Plan

Tube Pier   Bell Pier   Buried Post & Footing   Pier & Footing
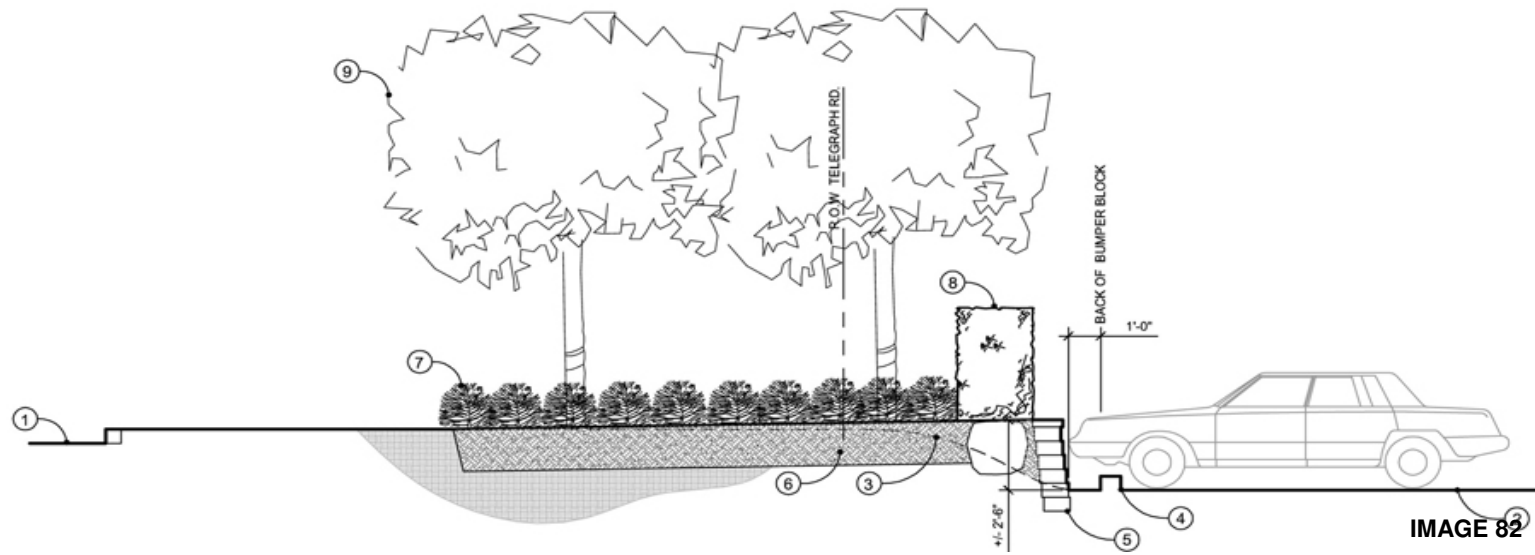
IMAGE 80

IMAGE 81

IMAGE 82

55

BUILDING CASE STUDIES AND IDEAS

The Yingst Retreat, which was designed by the architect David Salmela, is one of the case studies used for the design of the proposed architecture on the selected site. The placement of the retreat on its site, the materials used on the exterior and interior of the building, and the views to the exterior site from the interior of the building create a positive dialogue between the architecture and the land upon which it sits. Although the overall form of the Yingst Retreat is simplified, the repetitive design elements, such as the columns and windows, used throughout the building help relate the building to its site. Furthermore, the neutral colors used on the building's exterior serve to enhance the various colors of the natural elements found throughout the site. A numerous amount of windows allows for a sufficient amount of natural light to enter the building and creates different views of the site and the surroundings from various points within the interior of the building.

IMAGE 83

IMAGE 84

IMAGE 85

IMAGE 86

Examples of Deltec homes were also influential in the proposed building design. The various floor plan layouts allowed for exploring what functional space would work best with the different space arrangements of the homes. The structure of the homes, with the insulated wall panels and unique truss system for the sloped roof, is simple and can easily be constructed on a raised platform on the site. Materials used on the exterior of the homes could either relate to and blend in with the naturalized surroundings or contrast and enhance the colors of the landscape features of the site. Within the wall panels, windows could be placed at various heights in the panel or become the full panel itself to create or block specific views to the exterior. Skylights could also be added to allow for more views and natural light to enter the building.
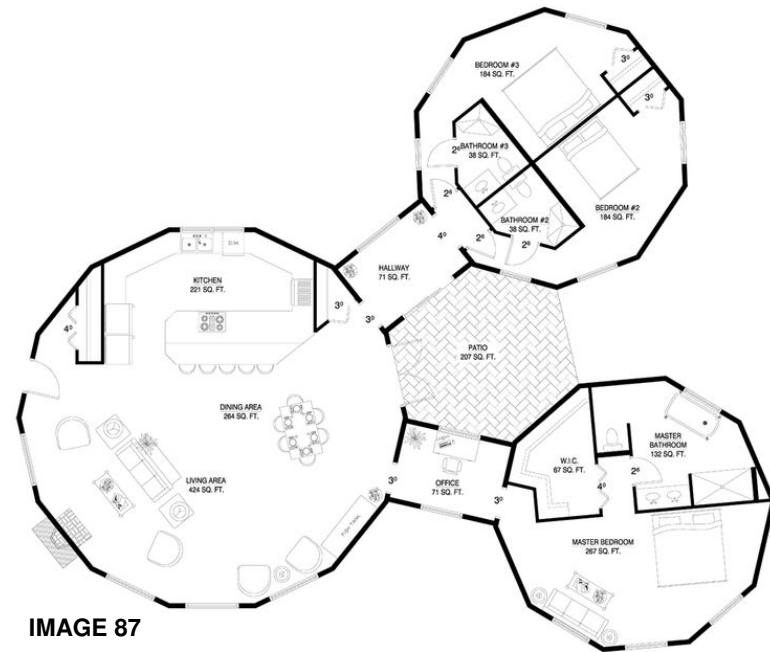

IMAGE 87


IMAGE 88

IMAGE 89

IMAGE 90

PROPOSED BUILDING DESIGN

The proposed building design is for the "Harbor Springs Center for the Arts." The building form, which was created based on the views created throughout the site and the existing trees, consists of five separate buildings connected by an exterior walkway. The building functions include a display area for the display and purchase of various arts, crafts, and locally produced items; studios, offices, and storage space for artist and employee use; a gallery space with an open floor plan layout; a performance space; and a cafeteria.

Instead of creating a large parking lot in one area of the site, parking is located to the south of the proposed architecture. The main entry access is located along the M-119 road two small service drives exist along Trillium Trail. Since the Trillium Trail road leads to private residential homes that are adjacent to the selected site, the main traffic flow throughout the site will start along the M-119 entrance.

The overall design of the building was based on the Yingst Retreat and Deltec Homes case studies. Neutral colors were used on the exterior elevations of the buildings in order to enhance the various colors of the natural elements found throughout the site. Furthermore, the buildings have many windows on all of the elevations to create views to the exterior for the buildings' users and to allow a sufficient amount of natural light to enter the interior spaces of the proposed buildings.

In addition, all entrances to each building are covered, however, the entire perimeter of each building was not covered in order to preserve the existing trees throughout the site and to emphasize the entrances. Finally, the overall heights of each building are varied, which adds a visual interest to the building proposal as a whole from all vantage points of the site.
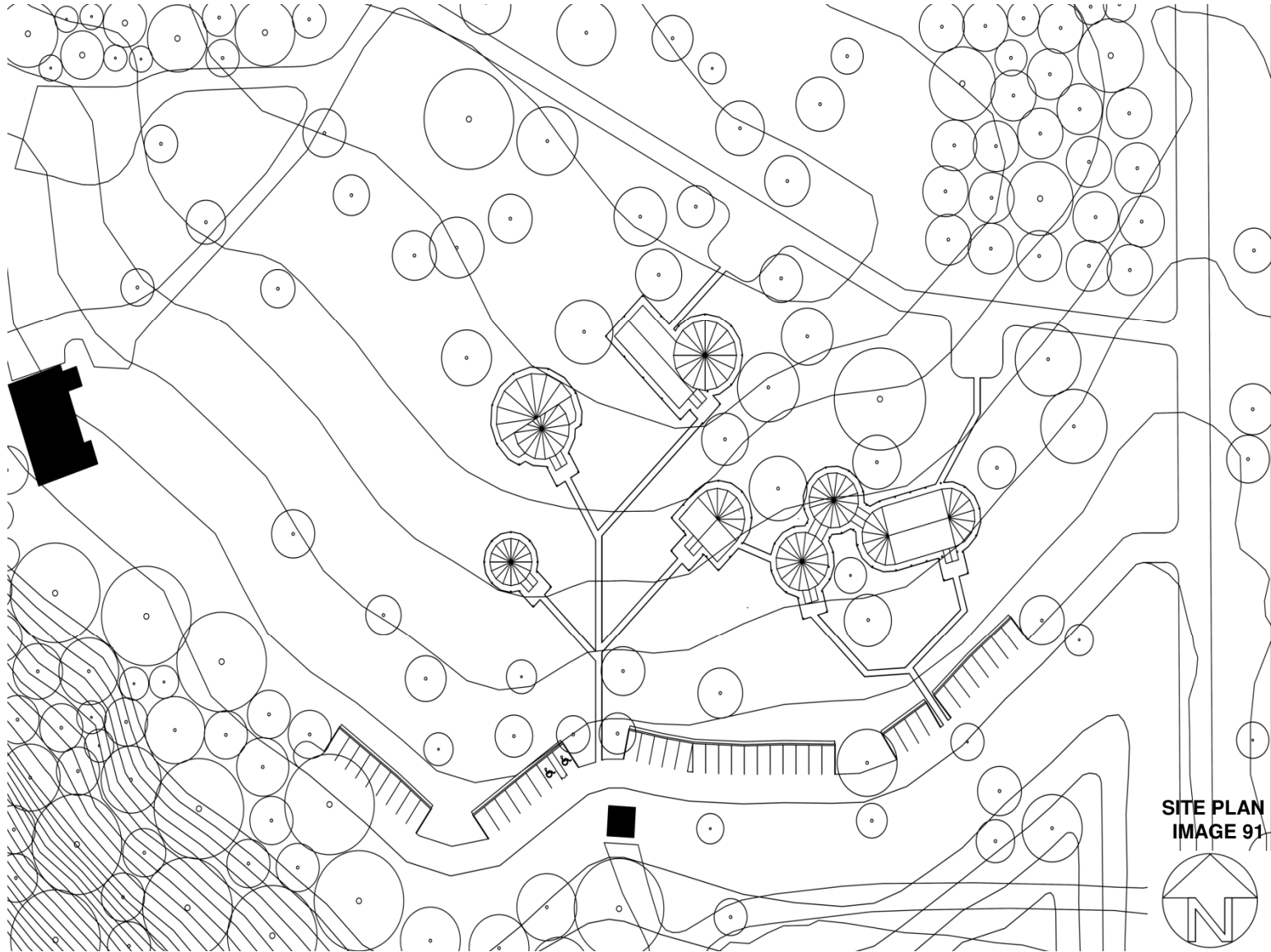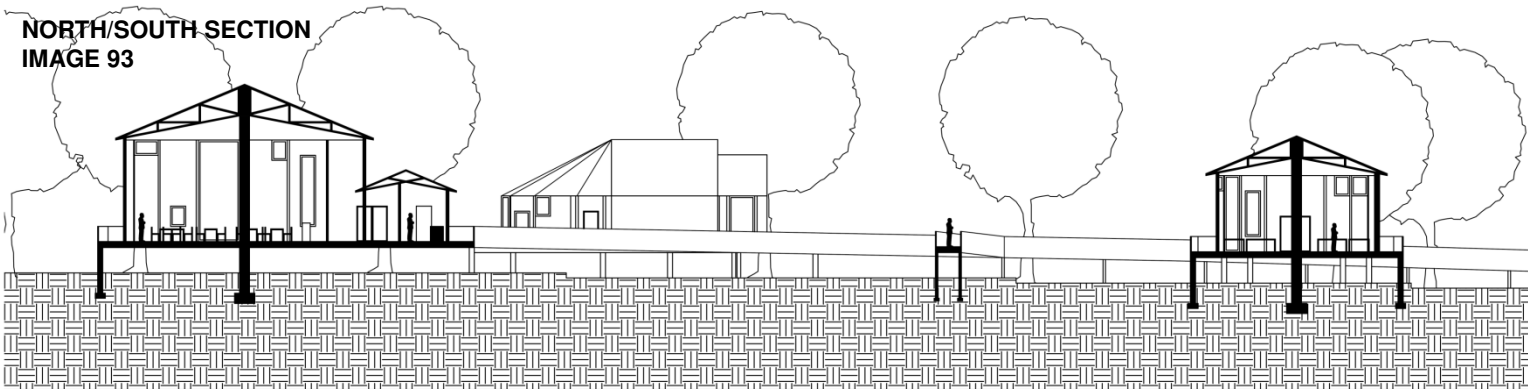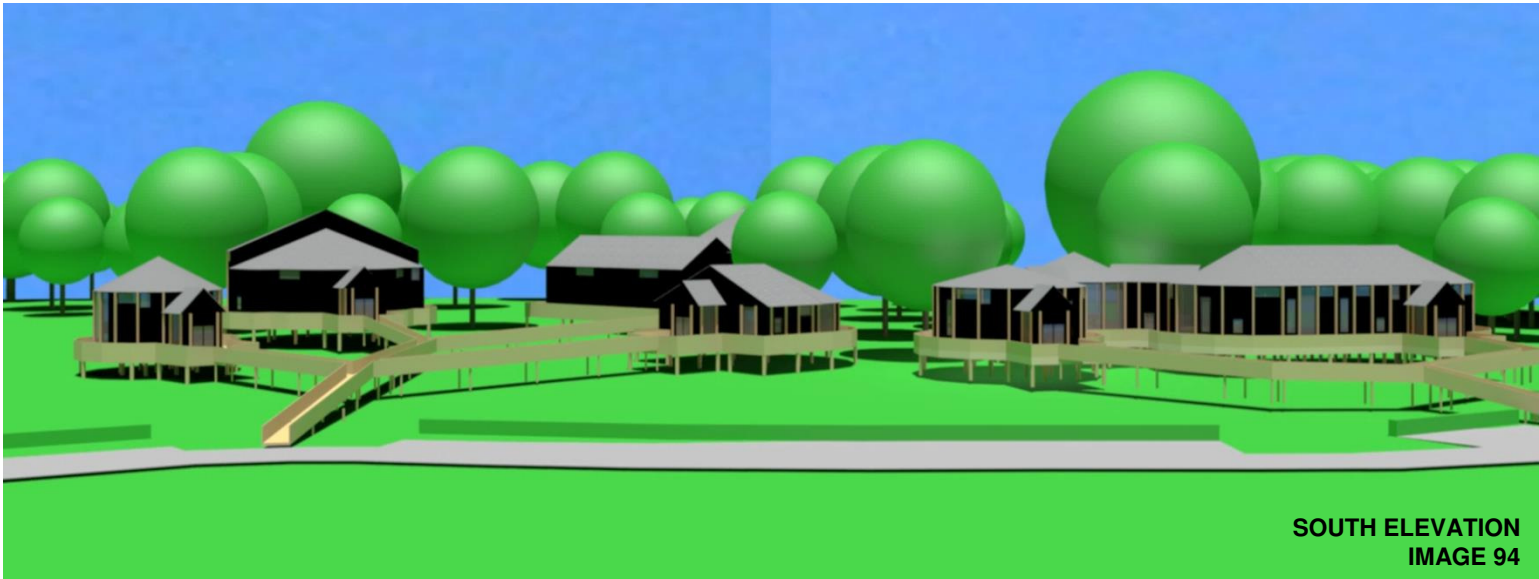
**SITE PLAN
IMAGE 91**

61

FLOOR PLANS
IMAGE 92
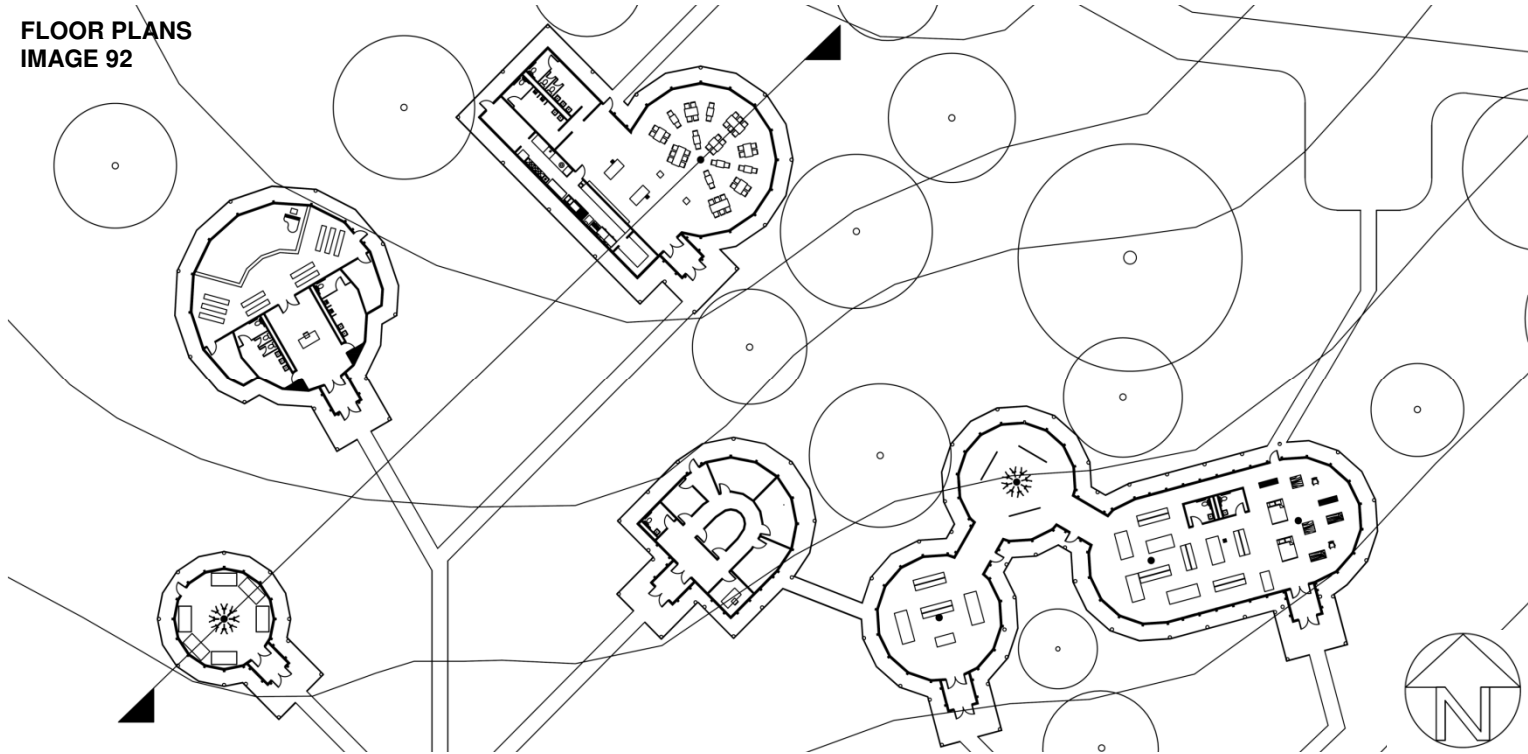
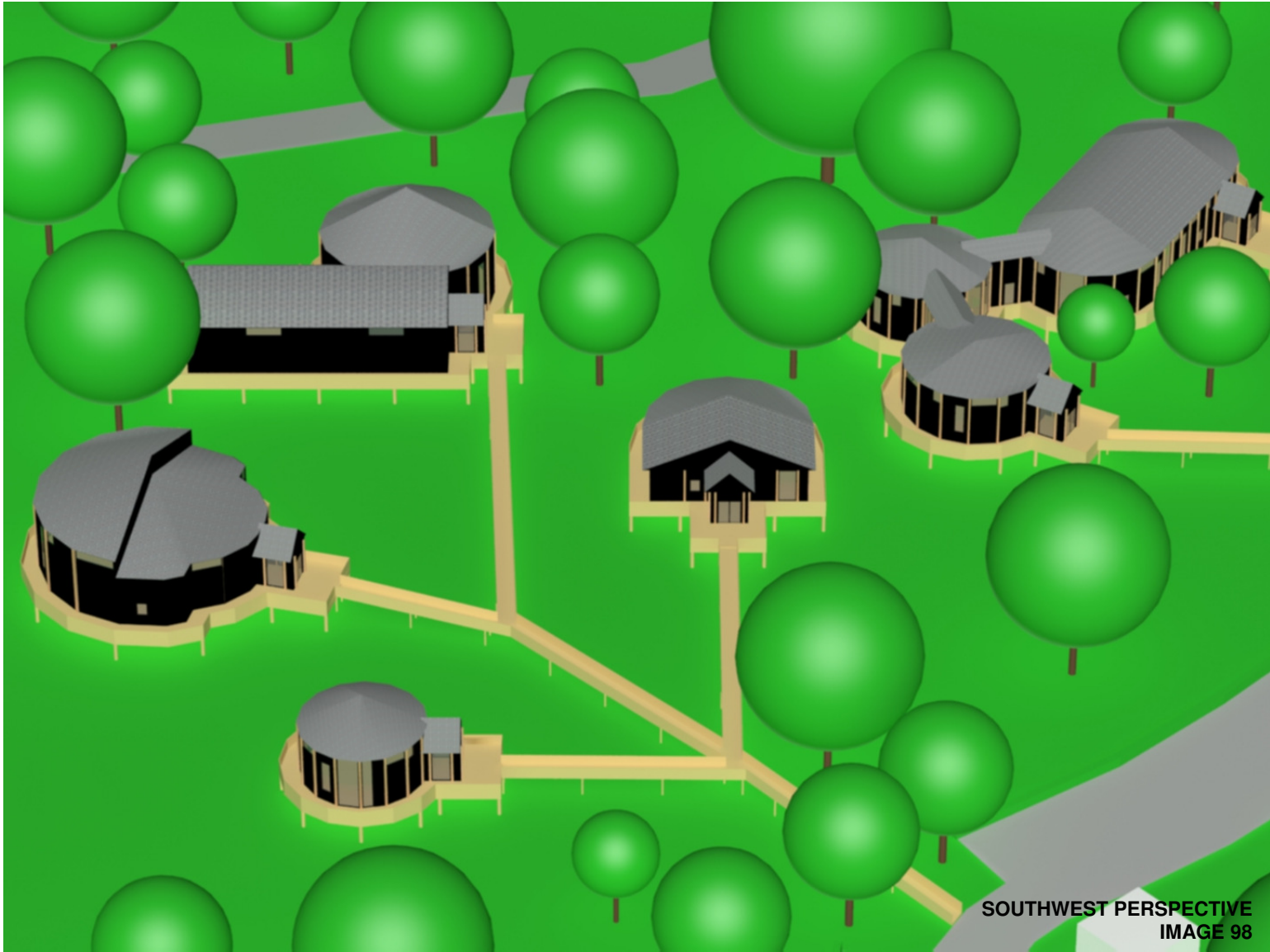**NORTH/SOUTH SECTION**
IMAGE 93
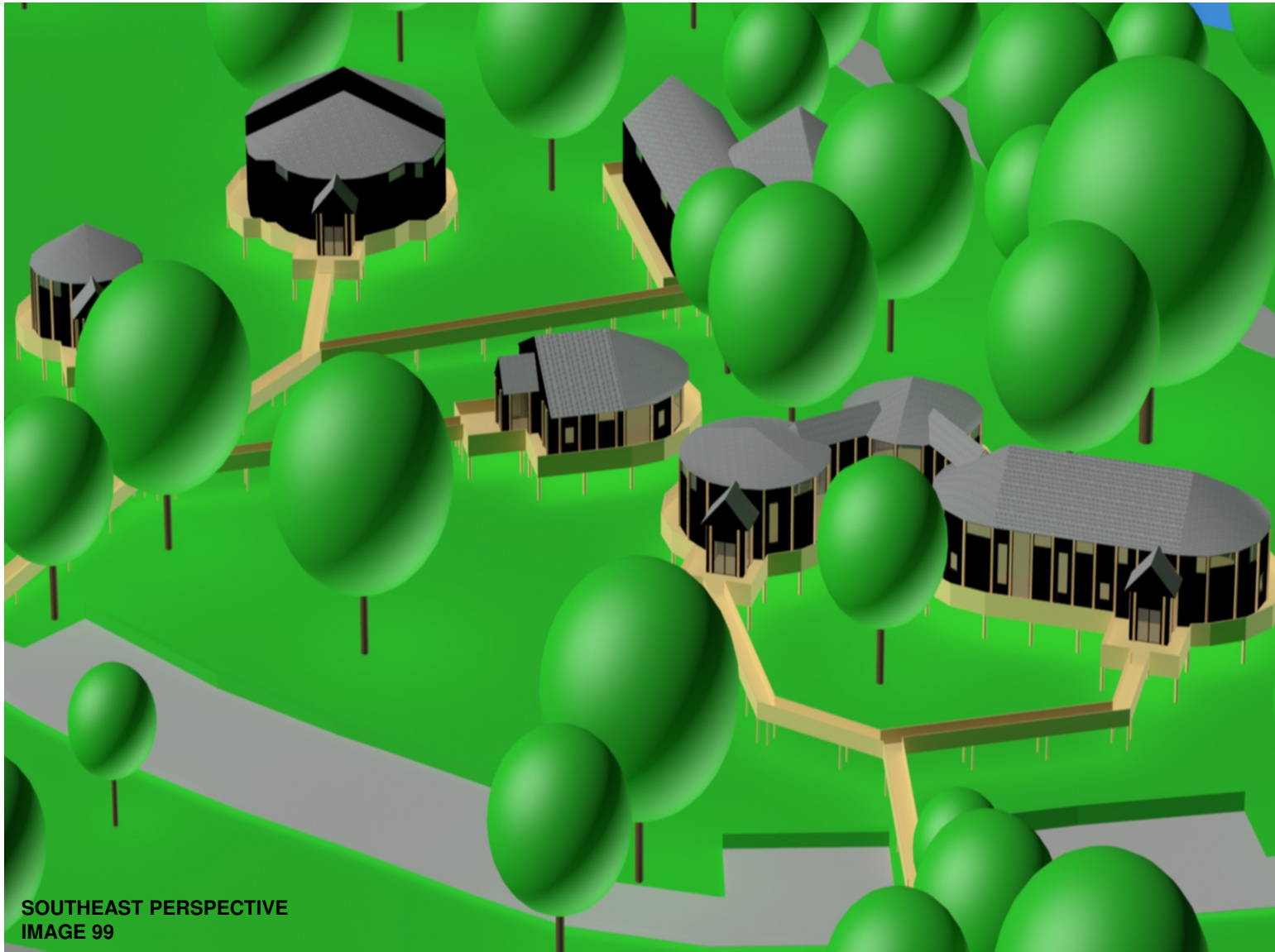
SOUTH ELEVATION
IMAGE 94

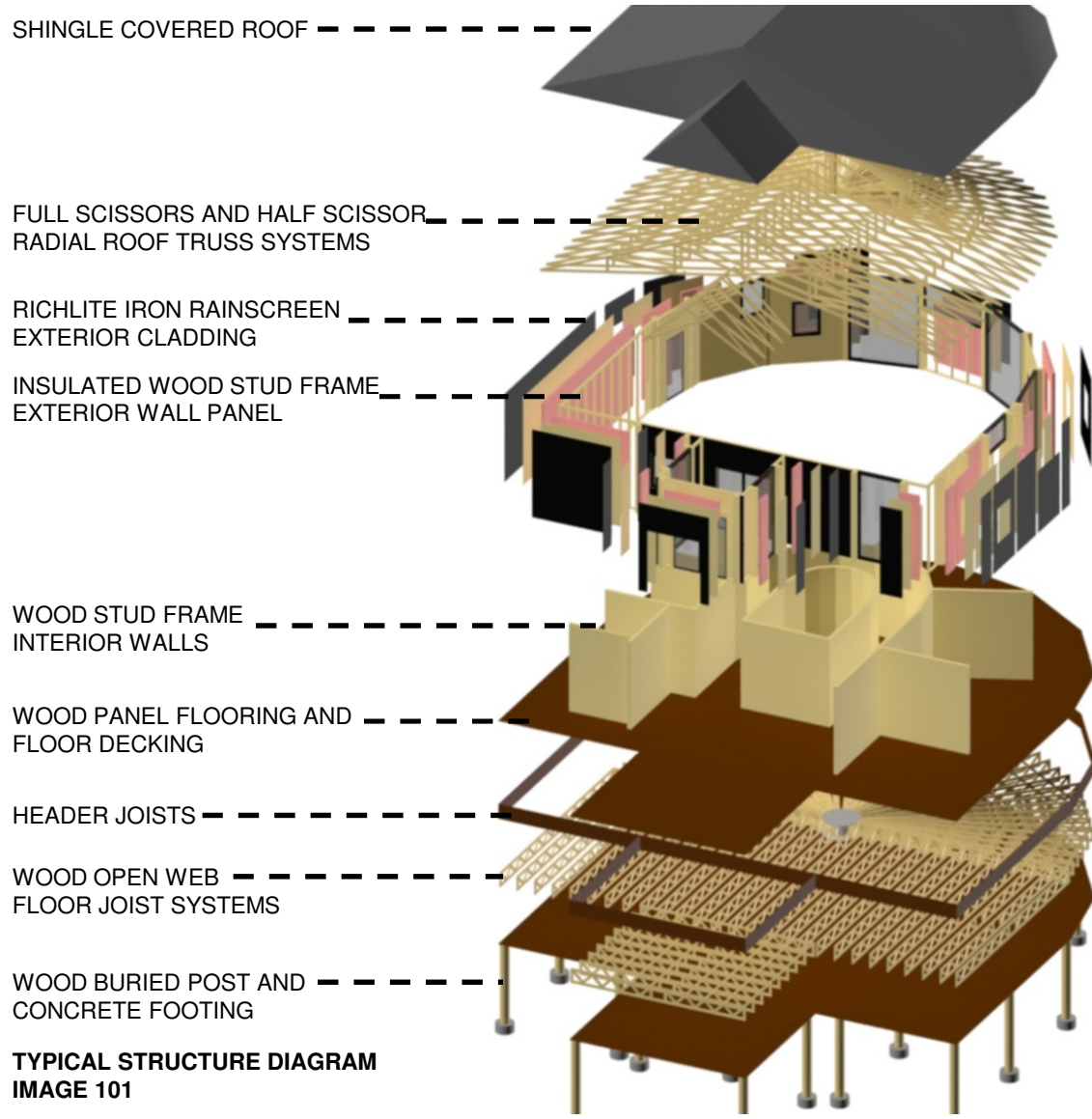**NORTH ELEVATION**
IMAGE 95

63

WEST ELEVATION
IMAGE 96

EAST ELEVATION
IMAGE 97

SOUTHEAST PERSPECTIVE
IMAGE 99

**PROPOSED BUILDING IN
SELECTED SITE
IMAGE 100**

SHINGLE COVERED ROOF ------

FULL SCISSORS AND HALF SCISSOR ------
RADIAL ROOF TRUSS SYSTEMS

RICHLITE IRON RAINSCREEN ------
EXTERIOR CLADDING

INSULATED WOOD STUD FRAME ------
EXTERIOR WALL PANEL

WOOD STUD FRAME ------
INTERIOR WALLS

WOOD PANEL FLOORING AND ------
FLOOR DECKING

HEADER JOISTS ------

WOOD OPEN WEB ------
FLOOR JOIST SYSTEMS

WOOD BURIED POST AND ------
CONCRETE FOOTING

TYPICAL STRUCTURE DIAGRAM
IMAGE 101

The display area building has three rooms which house the arts and crafts of the local vendors. The room pictured below has the sculptures, woodwork, glasswork, and other related items from the local arts and craftsmen for display and purchase. An open layout contains tables and shelving units for the crafts, which are easily accessible throughout the building. Windows create areas of natural light to filter into the interior spaces and create different views of the exterior site and surroundings.

DISPLAY AREA INTERIOR 1
IMAGE 102

This interior space of the display area building houses the photographs and paintings by the local photographers and artists. Artwork includes local scenery, activities, architecture, and historic figures and events. As in the other display area room, windows create various views of the exterior site; the viewing of the artwork and exterior site allow for the inhabitants of the building to gain an enriched feeling of being inside the building and the site as a whole, as well.

DISPLAY AREA INTERIOR 2
IMAGE 103

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