Architecture + Behavior: the built environment, natural landscapes and at-risk youth

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ARCHITECTURE + BEHAVIOR: THE BUILT ENVIRONMENT, NATURAL LANDSCAPES AND AT-RISK YOUTH

A master plan for the summer camp of the Boys and Girls Clubs of Greater Memphis

by

Jennifer L. Barker

A Thesis
Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Architecture

Major: Architecture

The University of Memphis
August 2010
The author wishes to thank the following people for their dedication, support, honesty, creativity, fortitude, listening, and editing capabilities. She is most grateful for their participation in the development and finalization of the thesis presentation that follows:

Family and Friends: most especially - Brad Barker, Eileen Gildea; "The Wonder Twins" Alžbeta Bowden and Jenica Thompson, Kristen David and the remaining graduates of the Master of Architecture program, 2010; Eric Hawkins and Patrick Cox.

Academics: Dr. Michael Huffman, Dr. Allen Seed, Dr. Pat Murrell, Dr. Frances Pearson.

Community: special thanks to the Boys and Girls Clubs of Greater Memphis – Dave Kegans, Vincent Bonetti, Joe Sing, the Clubhouse Directors, and the members of the Boys and Girls Clubs who shared insightful comments and interesting stories; Youth Villages – Peter Abel, Ashley Church and Cheryl Credent; Army Corps of Engineers USA – Dorothy Gray, Laura Rowland, Jennifer Rodriguez, Camp T.L. Janney - Chuck McKernan, Jason Cestl.

Thesis Committee: indebted to your wisdom, perseverance and belief – Professors Sherry Bryan (for the project proposal and emotional support), Michael Hagge (for refusing to leave the committee), Michael Nagler (for time away), Michael Corbin (for her willingness to take notes, photograph, travel, share stories, critique and generally help out whenever asked).

Thank you all.
There exists an interesting parallel between the power and the limits of architecture and its relationship to the human experience. This thesis proposes the question of how architecture can affect behavior in light of both the poetic and the practical in regards to the built environment. By understanding the way in which architecture influences the human experience, architects can act as a powerful influencer on behavior. These ideas, along with research in camp history, play theory, young adolescent development and learning, experiential learning, environment-behavior relationships, the natural environment and place preference are used for the planning and design of the summer camp for the Boys and Girls Clubs of Greater Memphis. The thesis serves as a guide for future development at the camp on Sardis Lake in Mississippi.
Something additional to note in regards to sacred architecture is a common theme of vertical emphasis among the typology. This thrust from earth to heavens is meant to link the two together in a sacred realm. The following: totem pole, spire, pagoda, pyramid, ziggurat, minaret, campanile, temple, mound, obelisk (Figures 8-11).

What is of interest in this discussion is a comparative study of prison architecture with its apparent antithesis, sacred architecture. It is to provide a dire need in shifting activities among the design of prisons to a more controlled, concentrated, and scaled activity. Sacred architecture can be described as the human attempt to connect to the divine through a specialized, dedicated space (Pevsner, 1976, p. 5). One such example is the Panopticon in correlation to prison architecture in the hills of Maidstone (Figure 6). The Panopticon is a grandiose plan that expresses the structure of the universe where an inner ring represents the celestial realm and an outer square represents the shape of the material world on earth. The sides are oriented toward the four cardinal directions, while a cell at the center [sic] represents Mount Parnassus, the cosmic mountain and axis of the universe (p. 12). As the diagram takes built form, the central area becomes the inner sanctuary or axis to notables. In a journey’s destination, the point of enlightenment (p. 12). Compare to it, the penetrative reception published by Jeremy Bentham in 1791 (Figures 5, 7). The principle for the design is "felt along the periphery of a stick and an observation post in the middle" (Furness, 1876, p. 153). Here again, the point of power is inwardly focused to the center, in its own circular confined space. The prisoner’s mental state is intimately linked to the central location as a point of self-regulation and reflection. It is interesting to note that the idea was Bentham’s brother, Sir Samuel Bentham, who thought that while the design should especially be used for prisons, it might also be used for "schools, manufactories, [and] hospital" (p. 167).
Inmates Performing Group Dance, Maximum Security Prison, Cebu, the Philippines

Figure 18.

After the prison overseer initiated daily dance routines in the central quadrangle (shown above), he noticed changes in the behavior of the inmates; because the prisoners had a specific activity to do, they were no longer bored and engaging in negative activities. Some prisoners claim that dancing has changed their lives and inmates ... some 1500 persons performing organized routines (Journeyman Pictures, November 2007, retrieved from http://www.youtube.com/watch?v=wAjItY7X0Yc&feature=fvw). This would indicate that, though the design doesn’t make positive behavior happen (negative behaviors happened in the quadrangle before the dancing was undertaken), its flexibility and size allow for a use that supports positive behavior or positive outcomes. Examples such as this further the notion that a correlation exists between architecture and behavior.

Another, and perhaps more obvious connection can be made between prisons and monasteries, where cloisters and cells exist in each and both are dominated by an inwardly focused existence apart from the rest of society. The connection may go beyond that: "Originally imprisonment was prior to trial, or prior to execution, or for debt, or as a cruel form of revenge. Imprisonment as a form of punishment seems to have originated in the monastery" (Pravenz, 1970, p. 162). The point of these connections is to introduce the notion that in some instances, the built environment is simply a background, "the material theater of human activity" where, "its truth is in its use" (Kostof, 1995, p. 3).

In regards to this paper, the images and the conversations the Justice Center generates raise questions about the purpose of architecture as it relates to human experience. If true what Lewis states is it true that, "we parcel people with architecture" whereby, "the building is the method" (L. Lewis, 1996, p. 5). The above calls into question the basic need forerializer, or even in its parts, a metaphor likened to the body as a "shaker for the soul," then should not we be investigating in the human body and spirit? And if so, what is the nature of the relationship between architecture and human behavior and how does that association manifest itself in this built environment? These are the questions that led to the thesis investigation and design proposal that follows.

In his article, Lewis mentions that there may be a correlation between the thoughtfully constructed design and the responding behavior of inmates: "If you trust a criminal with a better environment, will he prove trustworthy? . . .The place [Leoben Justice Center] has been open for only four years. But I noticed something as we were leaving, and in the absence of any other data it seemed significant. In the three or four hours we spent roaming all through the place, I hadn’t seen a single example of vandalism. (para. 11)"

It would seem then, that a notion exists – when design considerations are made for the user, the user responds in kind with respect for the physical environment (Figure 18).

Inmate Performance Group Dance, Leoben Security Prison, Graz, Austria

After the prison overseer initiated daily dance routines in the central quadrangle (above), he noticed changes in the behavior of the inmates; because the prisoners had a specific activity to do, they were no longer bored and engaging in negative activities. Some prisoners claim that dancing has changed their lives and inmates ... some 1500 persons performing organized routines (Journeyman Pictures, November 2007, retrieved from http://www.youtube.com/watch?v=wAjItY7X0Yc&feature=fvw). This would indicate that, though the design doesn’t make positive behavior happen (negative behaviors happened in the quadrangle before the dancing was undertaken), its flexibility and size allow for a use that supports positive behavior or positive outcomes. Examples such as this further the notion that a correlation exists between architecture and behavior.

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INTRODUCTION

Juhanni Pallasmaa in The Eye of the Skin (2005) relates the body and space as being intimately linked: “there is no body separate from its domain in space, and there is no space, unrelated to the unconscious image of the perceiving self” (p. 40). The body is inseparable from the world that surrounds it, a part of the whole that envelops it. Likewise, the two exist within each other as much as without, a reciprocal relationship between human form and built form:

I confront the city with my body; my legs measure the length of the square; my gaze unexpectedly projects my body onto the facade of the cathedral; I sense the size of its columns and projects; my body weight meets the mass of the cathedral door … I experience myself in the city, and the city exists through my embodied experience. The city and my body supplement and define each other. I dwell in the city and the city dwells in me. (p. 40)

It is a phenomenon that anticipates the power that architecture has on the human spirit (Figures 28 & 23). Architecture itself cannot exist without the permission of this act. But the two are interconnected: “Belief in the significance of architecture is premised on the notion that we are, for better or worse, different people in different places – and in the conviction that it is architecture’s task to render vivid to us why we might need to be” (De Botton, 1998, p. 153). Architecture is a reflection of self and its desire – the best of self can only be achieved if it can be the converse of self in public life. This may result in architecture that can alter one’s view; if our happiness can hang on the colour (of) the wall or the shape of houses, what will happen to us in most of the places as we are forced to look and think? (p. 153).

As the perceiving self is a product of past and current experience, “we believe in a little-aided feeling of contrast between the nature qualities written into a structure and the sudden wider reality within which we know them to exist” (p. 22). A contradiction remains between how different individuals relate to the physical environment. For instance:

It is understandable that, in potenti, furnished and lodges, mansions and variated apartments have played host to numerous tenants and murderers, sadists and以其, to characters with a chilling indifference to the disjunctures between the qualities manifested in their surroundings and in their lives. (pp. 39-20)

In summation of this point: “Architecture, even at its most accomplished, is only ever constitute a small, imperfect … protest against the state of things” (p. 40). “Thus it may well possess moral messages” it has no control or power to enforce them; “It offers suggestions” but cannot prevent its own abuse “(p. 28). Does this then negate Pallasmaa’s poetic of the indelible link between body and building? No it does not. Instead it offers an important consideration and warning
to the designer that the physical environment may indeed be, as Nance (1986) concluded "the most powerful technique we have for influencing human behavior" (as cited in Banning & Strange, 2001, p. 2) but it is not the sole contributor. Architecture acts as a powerful informer in the collective environment of its user, facilitating change by supporting the mission of the client; engaging the user in awareness about self through the interaction of the two; and by being "capable of absorbing the traces of human life" (Zumthor, 2006, p. 24).

The conflicting notions about the power of architecture serve as the springboard for the master plan of Camp Phoenix, the summer camp for the Boys and Girls Clubs of Greater Memphis, by raising fundamental questions about the built environment’s ability to impact its user by effecting positive change. Research included herein offers considerations for design by covering the history of summer camps, descriptions of user profiles, the influence of experiential education, environment/behavior relationships, and the importance of the natural environment. Also included are prevalent studies of similar hypotheses that suggest design considerations, intertwined with the body of text are process comments that suggest design methodologies and possible implementation ideas. The book concludes with a proposed master plan including descriptions. All of the information aims to qualify the important relationship between architecture and behavior; thereby supporting the concept that the two are inherently linked and when thoughtfully developed, a positive outcome is achievable.

Peter Zumthor in Thinking Architecture (2006) succinctly speaks of architecture and its relationship to the human experience:

Architecture has its own realm. It has a special physical relationship with life. I do not think of it primarily as either a message or a symbol, but as an envelope and background for life which goes on in and around it, a sensitive container for the myths of humankind on the floor, for the concentration of work, for the silence of ideas. (p. 12)

Figure 20. The Purpose of Architecture
[Image: The_Purpose_of_Architecture.jpg]
BACKGROUND

The Boys and Girls Clubs of Greater Memphis (BGCM) was started as the Boys Club in April of 1962 by The Phoenix Club (“Boys & Girls”, 2010). From the beginning the BGCM was interested in providing “quality outdoor educational experiences” for its members (BGCM internal letter, personal communication, n.d.). Initially, members traveled to Camp Courage in Mississippi, a camp in Lakeland, TN, and then to Homestead Lake in Arkansas before a permanent camp was made available on land in northwestern Mississippi (BGCM internal letter, personal communication, n.d.). The location of a former Girl Scout camp, Camp Phoenix (Figure 22, 23, 25-28) was leased from the U.S. Army Corps of Engineers in 1970 with funds provided by The Phoenix Club (BGCM internal letter, personal communication, n.d.). At that time there were several structures on the property including a dining hall, a cabins in a homemade grouping (located in an area known as the meadow) and a boat launch (located on land as the ridge) (BGCM, personal communication, February 16, 2010). In 1985, the dining hall was destroyed in an accidental fire, its site directly across from where the current dining hall sits (BGCM internal letter, personal communication, n.d.). The 1980s saw the construction of more cabins and a bathhouse and the introduction of girls to the Club and to the Camp. From that point forward tents were rarely used and the final set of cabins and an additional bathhouse (the western most) were built in the mid-1990s. Today, “Camp Phoenix is an American Camp-ing Association (ACA)-accredited residential camp located on 175 beautifully wooded acres. ... Each summer, Camp Phoenix provides approximately 200 kids from the greater Memphis area with the opportunity to experience the great outdoors face-to-face” (“Boys & Girls”, 2010).

The BGCM utilizes Camp Phoenix as an additional means of supporting its mission “to inspire and enable all young people, especially those from disadvantaged circumstances, to realize their full potential as productive, responsible and caring citizens” (BGCM business case). Additionally, the BGCM seeks “through a variety of academic and recreational programs” to empower “its members to make productive use of their time and wise decisions in their lives” (“Boys & Girls”, 2010). In accordance with this, the directors of Camp Phoenix have sought to integrate learning into the Camp curriculum. The former Camp Director implemented strategies of reality or control theory to teach campers the appropriate way of getting what they wanted (BGCM, personal communication, February 16, 2010). Accomplished through training, taking ownership of environment and actions, understanding standards, evaluating behavior, and by setting and rewarding achievable goals, campers were able to overcome negative or unacceptable behavior. Currently, the Camp is in a state of transition as the newest director settles in and prepares the Camp for future growth and development. The current Camp Director wishes to implement aspects of Experiential Education (defined on p. 21) (BGCM, personal communication, February 6, 2010). Holistically, experiences offered at camp should be character building; they should open up new horizons; there should be opportunities that allow for learning conflict resolution, responsibility, cooperation and respect for others (BGCM, personal communication,
February 26, 2010). Other important directives for camp include: developing positive relationships among members from different clubhouses and local areas; earning an appreciation for nature and survival skills; team-building; encouraging members to take on new risks and challenges; increasing summer membership by offering an enticing alternative to other organizations’ activities (BGCM, personal communication, February 23-25, 2010). In this way, BGCM is equipping their members with "the fundamental skills and values that they need to seize important opportunities and achieve future success" (Cloyce & Girvin, 2010). Members also expressed an understanding of the value in camp experiences - the ability to meet and interact with new people and the ability to engage in different activities (painting, fishing, swimming, archery, riffling, arts & crafts, dance competitions, obstacle course, nighttime, movie-night, etc.) (Figures 21 & 23) (BGCM, personal communication, March 4-18, 2010). Likewise, members offered ideas for improvement that the administration also addressed in their request for a proposal.

The proposal request (Figure 24) suggests a renovation of the facilities to achieve a "5 star" year-round co-ed camp including the following improvements: removal of existing cabins and the construction of new "barrack type" cabins; a small cabin for kitchen staff; small cabin for camp instructors; small cabin to serve as camp primary; small cabin for Camp Director; large recreation hall; restroom w/ showers located at lake front; campfire area; front gate entrance; updated dining hall; pool facility; BGCM, personal communication, October 23, 2009). Further clarification on the cabin design includes the following: bed accommodations for 10 campers, one junior counselor, and one counselor with 30" x 72" x 80" built-in bunk beds (BGCM, personal communication, October 23, 2009). Qualitatively, the administration and BGCM members voiced concerns about the current conditions that should be addressed in the proposal. These include: making cabins feel secure so that winterizing panels aren’t shut, thereby cutting off ventilation; improving ventilation methods, e.g., adding heating and air conditioning units; introducing lighting for comfort; design modifications that protect screens for better insect barriers; designing for flexibility, ease of maintenance, and durability; reducing places for animal or insect nesting; updating bathroom facilities to include insect barriers and a higher degree of privacy; shortening distance between dining hall, cabins, restrooms and lake front; additional new and exciting activities that are forward-focused and bridge the gap between traditional camp and the expectations of today’s youth; facilities for rainy days; better equipment and storage facilities for equipment including canoe/boat storage (BGCM, personal communication, October 23, 2009, February 23-25, 2010).
Addressing the mentality that the camp has “outdated” facilities which reflect a perception that “just because some of our kids come from less than they will appreciate any old thing” (BGCM, personal communication, February 23-25, 2010) relates back to the previously stated notion that thoughtful design of the physical environment (designed with the user in mind) has the potential to inspire those who interact with it. This should be prevalent thought in the evolution of the design as it strives to meet the requests for a master plan proposal.

Some additional notes to be cognizant of in the design process:

- Sardis Lake is a flood-control lake serving the surrounding farming areas—the lake front or beach area changes drastically in exposure and may change from day to day. This means that constructing permanent structures at the waterfront (beach, dock platform, a regular boat dock, etc.) is not possible. This also means that, at times when the water level is low, the camp may have a very different appearance compared to when the lake is at its full depth from the lake side.
- The lowest building limit is at the 287 foot topography line.
- There is a grade change of approximately 50 feet between the upper ridge and the lake line.
- The typical camper/ BGCM member is: African American; of a single parent, female-headed household; attends a school on the State of Tennessee’s High-Risk List; qualifies for free or reduced lunch programs at school (BGCM, personal communication, February 23-25, 2010). Designs should account for ACA standards, the Mississippi Building Code and the Mississippi Department of Health Regulations Governing Licensure of Youth Camps. This thesis proposal is undertaken in cooperation with the Design/Build class in the Department of Architecture at the University of Memphis and as such will propose process ideas, sketches, designs, or implementation guidelines that would facilitate the involvement of said class.

Various people affiliated with the BGCM mentioned the existence of previous master plans, sketches or proposed building plans for Camp Phoenix. At the time of this investigation, the author was unable to locate the aforementioned drawings and, therefore, has not included that information within this document.

In the early 1980s, the tradition of plaque markers began at Camp Phoenix. Currently the plaques hang down from the Dining Hall trusses (Figure 33) where they serve as a draw for returning campers, a trace on the landscape of their having been there. Another tradition for campers is to make cabin flags. Previously, campers signed paddles from the Water and Land Carnivals held during the camp week. Finding a way to incorporate these items will be an important aspect of creating and perpetuating place and self identity by reinforcing the history and tradition of the camp.
A Brief History of Summer Camps

Summer camps sprang from “the long tradition of rural schools” (Maynard, 1999, p. 4) that existed in northeast America in the middle to late nineteenth century that were dedicated to removing male “youngsters” from cronically over-sentimentalized environments and placing them into pristine ones, as James McEwan (1917) notes, separating “them from the subjugation of urban delinquency” (Van Slyck, 2006, p. 4). Opting against the transition from Transcendental to Naturalistic thought, camps offered a solution to problems with youth that were over civilized and suffering from too much mothering, a product of Victorian influence (Van Slyck, 2006, p. 9). Camps became a “characteristic feature in American life” with the ability to inoculate “the little city bred children a healthy measure of the wild” (Maynard, 1999, p. 3). Serving as a transitional stop from civilization, camps mediated between the two, a reality that accounted for capturing the fading frontier, mediating the “enabling about the disappearance of the wilder parts of nature” and àcephalous about youth softened from city life idenices and the feminized home (Maynard, 1998, p. 27; Van Slyck, 2006, p. 4). Natural settings normalized and stove-ovened urbanities, joy, and aristocratic.

As camp methodology evolved in response to changing cultural shifts, so did the architecture and planning of the camp. Depending on the funds available, early camps were either arrangements of temporary tents or permanent buildings that often sprung from a plan (Pumphrey, 1999a, pp. 10-19) with a plethora of simple detailing that divided “family camps in the Adirondacks” (p. 12) and the English “franquetage movement” of the 18th century. The plans, or plans, or plans, (Figure 35-37) were an important aspect of camp life, serving as a transitional space between the cramped and the natural environments (p. 18). They also provided shelter, cost potential, and offered a place to write letters and “take away rain in dashiness” (p. 14). On sites for locations that took direction from rustic and remote, universally preferring lake-side sites (Van Slyck, 2006, p. 11). A natural body of water meant providing daily requirements for drinking, cooking, and bathing, and was also essential for swimming and boating, activities that were integral to camp life from the very beginning (p. 15). Additionally, lake-side sites offered distance from “adjacent land and an extended degree of isolation from intervening upland” (p. 12) as well as serving as a metaphor for spiritual rejuvenation (p. 12). The “franquetage showed up as well, with organic systems to complement nature, though camp design in the later part of the nineteenth century was in the 1820s-1840s rustic military encampment (Figure 34). The grid was used as a means of regulating both the nature and human landscapes (p. 13), controlling by the “militerie” standardization of group behavior” (Maynard, 1999, p. 3). Eventually this led to an association with rigidity and inflexibility instead of discipline and camp planning area returned to an organic, decentralized plan where space in the natural environment was equated with the essence of the soul (Van Slyck, 2006, p. 20). Camp design began to shift

RESEARCH

Among the many topics that Van Slyck (2006) covers in her book on the history of summer camps is the metaphor of the evening camp fire. Part ritual, part mysticism, it held the power to kindle “a fire in the heart of each” camper who then carried it “to the city to light other hearts” (p. 11). However, Van Slyck (2006) also describes the “general belief in the civilizing force of the warmth of fire” (p. 11). Van Slyck (2006) goes on to quote Struculus in his account of the discovery of the fire by man, stating that discovery is what “‘originally gave rise to the coming together of man, to the deliberative assembly, and to the political life of community’” (Van Slyck, 2006, p. 4). This description, in a sense, evokes the essence of the campfire experience and other connotations for Camp Phoenix’s design. The campfire area (Figure 38) can support the spark of the ECGNot by encouraging togetherness and adaptability or behavioral modifications that are aimed, like the flame, back to the everyday life of the campers.

Figure 33. Campfire sketch (by author, 2009)

Here is a historical precedent for locating much of camp life at the lake side. This suggests that buildings and other programmatic functions at Camp Phoenix might shift farther south, closer to Sardis Lake (Figure 38). This lake is a huge attraction and is of high importance to the staff and campers, while at times it may become a distraction, efforts should be made to capitalize on its accessibility. We are currently in the process of incorporating this visual into our design (March 15, 2010).

Figure 34. Camp Beckett, YMCA Camp, Massachusetts

Figure 35. Camp Pasquaney, Headquarters, Concord, NH

Figure 36. Camp Pasquaney, Lodges, Concord, NH

Figure 37. Camp Pasquaney, Lodge Interior, Concord, NH

Figure 38. Rustic architecture of early camp buildings including extensive porches
in connection with suburban and superblock planning and the changing notion that "camp should not attempt to counteract the softness of modern home life, but should instead take into account the standards of comfort ... and the like, "counted on their arrangement of the camp landscape to tell campers what was expected of them" (p. 167).

The Concept of Play
Among the changing variables of camp life was the integration of regulated play as part of the "recreation revolution" and a direct response to the "overdeveloped work ethic" known as "Americanitis" at the turn of the twentieth century (Van Slyck, 2006, p. 40). Camp became a summer course in recreation, a reaction to the "overdeveloped" ethic (p. 42), with changing attitudes and routines about the necessity of leisure.

Adults continued to see the countryside as an idyll for children, a place where - they felt - the purity of nature would protect and preserve the purity of childhood. In contrast, the urban setting is which many children spent their leisure time was particularly troubling (p. 42). Where early camps had helped campers (who were admittedly older adolescents) to begin the transition to adulthood, their positioncounterparts crossed campers (who were now younger children) in a world of recreation (p. 158). ... considered) camp as a site for the remaking of American childhood. (p. 211)

The extended domesticating issues in a way that scripted the "correct" way to play and manifested itself in the physical environment by the construction of buildings in order to regulate and reduce the amount of open space (at least conceptually) (Van Slyck, 2006). Around the same time came the introduction of time-keeping related to schedules and routines, the entrance of woodworking and crafts, and the shift from imaginative and improvised play with existing conditions to the use of equipment and fields of organized sports (Van Slyck, 2006).

The importance of play is still a relevant notion today, especially in light of the nation’s growing dependence on technology. The National Institute for Play (NIFP) recognizes seven "patterns of play" as a framework for understanding behavior: Attunement Play – an emotion based connection between persons, things, or both (e.g., the visual/verbal connection between an infant and its mother, whereby the emotional reaction in the brain of each is altered to the other); Body Play and Movement – the physically based act of housing and thinking in motion (e.g., a keeping motion in the air is a lesson in gravity and body movement); Object Play – physically based cognitive development through hands-on manipulation associated with problem-solving (e.g., manipulating objects by hand including toys, building blocks, banging on pots, etc. as a child develops problem solving skills); to name a few. The identification of these patterns of play aids in the understanding of how the built environment can be designed to accommodate and encourage them in a child’s development. The NIFP recognizes that the environment should take into account how a child uses space and their relative connection to one another: public versus private - adjacent to, above or below the other.

The placement of buildings to fill and define the space that regulates areas for play is a characteristic of a built environment shaping or nonverbally-instructing behavior. How then can the built environment be informed by the multiple patterns of play? Perhaps it can reflect the shape of a play area (Figure 40). Stuart Brown, president of the NIFP, states that "Play is the work of the mind." The ideal environment is one in which a child is free to play in an unstructured situation, his body would be all straight lines. But using the body language of play, the curves and "embraisons" (p. 110). Likewise, the built environment can be made to curve and embrace – in the form of a building’s season or plan, in the layout of pathways, or in the landscape. See Figure 40 below, Figure 41. A child needs to be allowed to experience and understand the degree of spaces and their relative connections to one another: public versus private – adjacent to, above or below the other.

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15

solving, or the ability to fix, used in adulthood); Social Play – the complex interaction among persons, groups, or both including physical contact and verbal sparring; Imaginative and Pretend Play – an emotionally based play used in all ages, at all times” (Henig, 2008, para. 1). It is “a central part of neurological growth and development” and a significant way to “build complex, skilled, responsive, socially adept and cognitively flexible brains” (para. 6).

Attunement Play - The natural environment is filled with sensory information that the camper may become attuned to. Creating areas designated for reflection that are centered in high-sensory areas (a clearing in the woods, a peak or valley, lake side, etc.) or pathways that are designed to engage multiple senses at a time may provide for enhanced play.

Body Play and Movement - This play dominates the camp experience because most if not all camp activities involve multiple aspects of movement, including the learning of new skills. The natural elements of each environment can be a significant asset in providing opportunities for block play becomes an essential part. Creating a layering system of gathering areas for block play (rubber mats, sawdust, etc.) can encourage the development of new social roles.

Object Play - Object play is also pervasive in this type of environment. However, it may be increased because of new objects found in the setting, for example: skipping stones on the lake or foraging for berries, mushrooms, wild flowers, or insects in the woods.

Social Play - Camp offers an increased amount of time focused on individual and group development in which social play becomes an essential part. Creating a layering system of gathering areas for social play (rubber mats, sawdust, etc.) can encourage the development of new social roles.

Integrative and Creative Play - This type of play seems to be a carefully controlled hybrid of all the other types of play. (The adaptation of signifying into poetry or music would be an example of this). For example, they may be located adjacent to the cabins or dining hall. Storytelling-Narrative Play - Like social play, narrative play involves the individual-to-group relationship, and would, therefore, have similar design implications. In addition, spaces geared towards this type of play might contain furniture or seating arrangements conducive to telling and listening.

How can a camp be designed to foster and encourage the multiple patterns of play? While play is spontaneous and happens regardless of the environment, there may be design elements that can make play more accessible or increase the likelihood of individuals engaging in it.

| Young Adolescent Development and Learning |

Kellough and Kellough (1999) in Chapter Two of their book, Middle School Teaching, describe the wide range of intellectual, physical, psychological, social, moral and ethical development that young adolescents, to include children ages 10-15, are categorized by; thereby indicating a "tremendous variability among individuals" (p. 37). Intellectually young adolescents are marked with intense curiosity; their thoughts and activities are dominated by personal-social concerns (p. 39). They enjoy using problem-solving skills and are adaptable in little time it takes for them to adjust to a new environment. Additionally, "their emotions experience change from the concrete manipulability to the capacity for abstract thought" (p. 40). Physically young adolescents are significantly different than they appear to be; they are experiencing accelerated body development, fluctuations in metabolism that can effect "extreme restlessness or listlessness" and have ravenous appetites, all of which occur to individuals at different rates depending upon individuals at varying mutation rates (p. 39). Psychologically they tend to be sensitive, easily offended, anxious and inadequate in behavior; moodly, hopeful, imaginative in nature.

Verbal play such as this can be likened to a type of "play-fighting" that introduces "variable tempo, self-handicapping and role reversals" where players "riff on one another," thrusting and parrying; where "the gestures themselves" (Henig, 2008, para. 42-43). Imaginative and Pretend Play - This type of play is important for at-risk groups because it involves role-playing interaction that requires degrees of trust and introduces coping skills, such as "exile even necessary for individuals whose human environments are dangerous or otherwise overwhelming." In perfected play individuals "learn to know audiences, alter self-functioning to adapt to 'audience's' expectations" (Henig, 2008, para. 42).

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positive connections with members of the opposite sex (Kellough & Kellough, 1999, p. 39; Van Krevelen, 1972). The final developmental category, moral and ethical development, is dominated by idealistic, reflective, and analytical thoughts and feelings that grasp at understanding an "intellectual and emotional awareness" in light of over arching questions, for instance, regarding the meaning of life (Kellough & Kellough, 1999, p. 40). Children at this stage explore moral and ethical influences, from sources such as home and church, in daily interactions with others (p. 41).

Understanding learning abilities is also an important facet of grasping young adolescent capability. Summer camp can be thought of as an specialized school in a rustic setting (Van Krevelen, 1972), therefore, it is important to give some consideration to the way age group matures (modality) and processes (style) information. In general, "younger adolescents prefer and are taught by teaching objects, by feeling shapes and textures, by interacting with each other, and by moving things around," and older children are "dominated by visual and auditory stimuli, through the integration of things as a whole. Kellough, and Kellough (1999) note in their study (78), and it does not involve multiple learning styles: optic learners -- visual interactions with others by "transferring the ideas of others with their own experiences," art learners -- emphasized by receiving information sequentially, from experts, and are detail-oriented; common learner -- reflective of off-hand and hands-on, learning activity; dynamic learners -- activities that are hands-on and enjoy learning new things (as cited on p. 41). Additionally, learning can be seen as a phased process wherein the learner processes information through concrete experiences (sensorimotor phase); analyzes and evaluates the experience to formulate a "fit" for the new information (invention or concept development phase); and then applies the new learning to "situations that are relevant and meaningful to them" (expansion or concept application phase) (p. 43-44). Another way to categorize learners is by Gesell's (1939) "learning capacities" or "multiple intelligences":

- Bodily/kinesthetic: ability to use the body skillfully and to handle objects skillfully
- Interpersonal: ability to understand people and relationships
- Intrapersonal: ability to assess one's emotional life as a means to understand oneself and others
- Logical/mathematical: ability to handle chains of reasoning and to recognize patterns and order
- Musical: sensitivity to pitch, melody, rhythm, and tone
- Naturalist: ability to draw on materials and features of the natural environment to solve problems or fashion products
- Verbal/linguistic: sensitivity to the meaning and order of words
- Visual/spatial: ability to perceive the world accurately and to manipulate the nature of space, such as through architecture, mime or sculpture (as cited in Kellough & Kellough, 1999, p. 44)

Emphasis on learning through the sense of touch and physical movement can be carried into the design through hands-on interaction with building components. For instance: climbing walls, ramps, ladders, poles, ropes, etc. to move from one vertical plane to another (Figure 42); opening and closing objects such as shutters, ladders, screens, velcro doors or hooks (especially to manipulate body (thermal) comfort (Figure 42); and hammocks (Figure 43); Rating devices that are involved in the modified physical plan (spatial aspects of each with spatial tent configurations (Figure 44)), i.e., the incorporation of portable and flexible objects (of various sizes) that are user-controlled.

Generally speaking, the Naturalist learning capacity might be seen as the most successful learner in a camp environment. (However, because the natural environment offers a multitude of experiences, and there are various ways to learn, learners differ in capacity strength). The Naturalist is knowledgeable about nature and in the arts and crafts, but also good at building things, construction, and woodworking (as an earlier known, manual training) in the early twentieth century (Van-Dyke, 1938) would have facilitated such types of learners and introduced to others, the ability to manipulate the natural environment in a civilization way (through crafts and woodworking) (Figure 42). The unique experiences of campers in camp enhanced their mental development through muscular coordination and digital dexterity (helping campers to appreciate the relationship to productivity and introducing traditions that could "prevent duality" and "creative motor and physical health" (Crey, 2001, p. 8)). Additionally, tools were usually "transport compatible" with a "portable" and "interchangeable," and campers' ability to manipulate the environment with "a major part" in their development" (here described as "portal to the "preindustrial" world" because "children needed to move house, "crafts, and "cultural evolution") (p.97). Craft work included the use of wood, metal and leather as well as "dyeing, binding, weaving, woodwork, printing, pottery, basketry, weaving, and carpentry" (p. 98).
What is important to take from this presentation concerning young adolescent learning styles, stages, and capacities is that learning is dynamic and cyclical and there are varied types of learners who need multiple ways to learn (Beatty & Baldock, 1996, p. 44). Being compliant of what individuals are dealing with and considering in what ways they learn best may help when attempting to affect behavior. “Knowing the developmental level of the child provides information about the most effective reinforcers” (Van Krevelen, 1972, p. 14) and “behavior that is reinforced tends to be repeated, whereas behavior that is not reinforced tends to be abandoned” (p. 12). Reinforcement sensitivity, either biogenic (intrinsic/extrinsic) or psychogenic (socially/culturally-based) and “has anything that strengthens and leads to repetition of the behavior that preceded it” (p. 14). However, “behavior must occur before it can be reinforced, and the reinforcement must follow immediately” (p. 15). Since children of this age group are role-playing, or practicing identification or association with adult roles, they exhibit multiple personalities for multiple situations and may in turn display positive behavior that can be reinforced (Van Krevelen, 1972). It takes an attentive adult to recognize and respond in time to reinforce the behavior. Moreover, one must be aware of how negative or unacceptable behavior is being reinforced.

In the process of living, the child builds up an idea of himself based on the way others react to him, their expectations for him, and the success he has had in influencing his environment. “..."the ability of young people to influence the behavior of others tends to be limited, and success may be based on the behavior of others” (Van Krevelen, 1972, p. 24-25). Camp also provides a number of opportunities to reinforce self-reliance and self-concept (Van Krevelen, 1972). Additionally, aspects of conditioning, where “two stimuli occurring close together in time become associated, and one acquires the ability to call forth the response originally elicited by the other” (Van Krevelen, 1972, p. 35), can be applied such that pleasurable emotions are created and combined with play and can then be called upon when the camper returns home. Learning is constant in camp by taking place in all existing moments not just in activity periods; because of their age, young adolescents are eager to “acquire information and motor skills” making camp “a very effective teaching environment. Coupled with this is the fact that, if the camper is happy in camp, the

How can the built environment facilitate the multiple role-playing that occurs in young adolescence? As in the discussion on serving multiple types of play, there should be multiple types of spaces, including role-playing areas, location, and use, and location. The architecture should not be everything to everyone by trying to “role-play” all the time. It is better served by providing spaces that encourage the camper to focus on specific tasks or activities; leaving latitude for the user to control and manipulate. If an individual or group can access the physical environment as a tool in their role- playing, the environment becomes another object that reflects, interprets, or suggests self.

Implementing building features or play components that offer a sense of risk and adventure (even simply by perception) that are accessible and navigable by any individual may increase one’s self-confidence and sense of accomplishment. For example: bridges at varying heights, uncommon steps or ladders, swings of varying sizes and among various environments, or any other task that provides a new or different experience than is commonly found in the camper’s home environment.

Positive experiences through stimuli that include characteristics between the home and camp environment may include: music that is played during an activity period where campers are successful at performing a task and feel confident; partaking in food in a group environment that manifests feelings of kinship, inclusion, and camaraderie; the smell of the woods when hiking or biking that elicits feelings of excitement, exploration, wonderment, and achievement.
power of emotional conditioning and secondary reinforcement is particularly potent” (Van Krevelen, 1972, p. 109). Difficulties in learning may occur when what has been learned previously interferes or inhibits later learning – known as negative transfer or proactive inhibition (pp. 69-71). Also, the principle of primacy may come into play where “what is learned first results in the strongest or more long-lasting habit” (p. 72). Again, this necessitates the careful monitoring of campers, who now may be faced with discomforts they believe to be a learning limit or prerequisite (pp. 69-71). The experience as short as a week or a month (a camper) may have experienced that are impressive and have long-term effects on his [or her] self-image (p. 71).

Camps offer a unique experience to facilitate self to other interactions because they require active participation but allow for times of reflection whereby the camper perceives their relationship to the group as well as being conscious of their own person (Van Krevelen, 1972). The camper has the ability to search and explore the self, to think about the free expression of their individual desires in relationship to the shared goals of the group and gives them the ability to make choices which can lead to feelings of accomplishment and increased confidence (Van Krevelen, 1972). Opportunity for self realization, or self actualization, the process by which an individual becomes aware of their own talents and abilities, is an important part of personal development. A good camp experience enhances this development while a poor one can interfere with development (Van Krevelen, 1972, p. 90).

Experiential Education

Experiential education (of which adventure education is a part) is a learning methodology where “experience serves as the central source for learning” (Gass & Priest, 1997, p. 142). It involves using direct and personal experiences, where the learner is actively engaged, with real and perceived risks that foster motivation and assist the student to risk being at the learning (Gass & Priest, 1997). Learning is personal, where the learner is held accountable, present and future relevance and offers opportunities for synthesis and reflection (Gass & Priest, 1997, p. 127). On their website, the Association for Experiential Education explains that “learners are engaged interactively, emotionally, socially, respectfully and personally” (AEE, 2010).

Regardless of the type of camp, the staff can use the “functional unit” in camp leadership, “equipment and physical facilities can limit or promote activities” but no amount of equipment “can make up for the deficiencies” in staff. They are “the link between the goals of the camp and the camper, and the resource that the staff must work with in order to make the camper learn bad habits will lose of benefit” (p. 81). Where time is limited to one or two weeks, “it is necessary to take advantage of every opportunity.” Camps tend to be short, where a camper may have experienced that are impressive and have long-term effects on his [or her]

The built environment can facilitate individual to group understanding (as previously mentioned) through the architectural relationship of the buildings types that occupy the camp landscape. One individual building can serve as a visual aid to a group setting and assist the visual relationship between building function and meaning. In addition, in order for a child to feel comfortable in the built environment, they must be familiar with the design and architecture of the building. Likewise, if the remaining buildings have a similar design to one another, but a different, less significant design than the group building, the child may feel disoriented to the individual of group remains. The relationships can be broken down further in individual buildings such as the cabin; the child may feel more comfortable in the existing design. However, to be effective, all parts of the learning process must be included, especially the synthesis and reflection portions. Providing areas that aid in this part of the learning process will be valuable in furthering camper’s transformations. Making these areas directly adjacent to where the direct experience happens is suggested.

However, it is important to note: A child from the inner city may find the mere trauma attached to living outdoors so great that anxiety reactions related to his physical surroundings overwhelm him. He is likely to experience many fears of going off into the woods alone, even as far as a wash house, or even the water, fear of the sights and sounds of nature (Van Krevelen, 1972, p. 104).
Experiential learning is also based on the belief that change occurs when people are placed outside a position of comfort and into a state of dissonance, or the difference between the current situation and the desired future. In such a state, people are challenged by the adaptations necessary to reach a new state of equilibrium, yet are also supported through such processes. (Gass & Priest, 1997, p. 136)

The camp setting offers an opportunity for carrying out such experiences because it stands in contrast to the "home" environment with which the children are familiar. "The difference between these environments allows [children] to receive valuable information from two sources: the elements they overlook in their familiar environments and the elements present in the adventure environment that do not exist in their familiar environments." (Gass & Priest, 1997, p. 144). Experiential education and its counterpart adventure education offer youth the "chance to take risks," as a "supportive environment provides an opportunity for development and adventure because it allows them to do 'something' they thought they had no chance of accomplishing before." The accumulation of such risks "helps to develop courage, mountaineering, orienteering, group climbing, trust falls, etc." "Involves some sense of mastery or competency" "Participants that" "give them insights into behaviors that they can transfer to their home environment." (Gass & Priest, 1997, p. 141).

The Designed Relationship

Banning and Strange (2001) articulate that the human environment consists of the characteristics of a person, the characteristics of the environment, and includes four key components:

- Physical condition, design, and layout
- Characteristics of the people who inhabit them
- Organizational structures related to their purposes and goals
- Inhabitants' collective perceptions or constructions of the context and culture of the setting (p. 5)

They also note three distinct ways in which the physical environment can act as an influencing behavior. First, architectural determinism or "environmentalism" proposes that "behavior to a large extent is determined in a direct, causal, and mechanical manner by the physical environment." (Banning, 1991, p. 162). Second, architectural possibility proposes that the physical environment passively affects behavior by suggesting but not restricting behavior (Banning & Strange, 2001, p. 12). Lastly, architectural probability proposes that thoughtfully constructed physical environments may have certain behaviors more likely but not guaranteed (p. 14). In the latter proposal with which this thesis investigation is concerned. Physical environments can provide clues.

Can the built environment create a state of dissonance? If buildings, urban settings, and outdoor environments create states of dissonance, then they can provide new knowledge about the building’s static or contextual power, and the potential for change. Generally, the power of the built environment and the social behavior that it implies are seen as a contradiction. Buildings are static and unchanging, yet they provide a social context for variable interactions and the potential for change. (Banning & Strange, 2001, p. 13)

Alain de Botton (2007) - whose deliberations on architecture and its relationship to the human spirit are considered in the introduction of this thesis - states that "special architecture is a suggestion about good behavior and yet the suggestion it offers is about good behavior and yet the suggestion it offers is about good behavior; the suggestion it offers is a suggestion about good behavior and yet the suggestion it offers is about good behavior and yet the suggestion it offers is about good behavior. The quote reiterates both the power and the limits of architectural design and action and the author about preconceived expectations and outcomes.
for behavior settings, functioning “like a nonverbal mnemonic device where encoded messages in the physical component of the behavioral setting serve to remind participants what behaviors are expected” (Rapaport, 1982, as cited in Banning & Strange, 2001, p. 19). The settings can be both supportive and antagogeic, thereby “making some behaviors more or less likely.” (Banning & Strange, 2001, p. 20). Additionally, presence serves as a link between physical environments and behavior (p. 21); this includes spatial zones, or culturally acceptable spaces between people, the location of buildings to one another and the distance a person must travel in or willing to travel to reach a building or physical environment. Because people activate physical environments, they are inherently linked to, and have the ability to influence them. It makes sense, therefore, for the physical environment to allow, if possible, for the personas that will come into contact with it. Additionally the physical environment, if programmatically, is formal to meet requirements of the client which may or may not like into account the use, especially in an environment that is not evaluated for long term use. What happens, then, is the creation or the environment that is supportive and allows the participant to be successful in a setting. This is done by creating a sense of security and inclusion, including mechanisms for movement and as means of connectivity through environments that have human scale, are flexible and provide connections visually and physically; involve history, tradition and culture; show commonality or a form of interdependence among individuals; and allow for space in which to exist and carry out functions, including taking risks (Banning & Strange, 2001).

Why A Natural Setting Makes Sense

Taking into account what has been mentioned up to this point, it would seem that, like summer camps in the nineteenth century, the natural environment remains an opportune place to affect behavior, albeit in a similar yet different manner and for a different purpose than when they first began. Richard Louv, chairman of the Children & Nature Network, in his 2008 book Last Child in the Woods, cites Hoffman’s (1992) finding that “most transcendent childhood experiences happen in nature” (p. 294). Louv (2008) states that “direct experience in nature is the most important aspect of the camp experience”, exposing the opportunity for greatness through “self-confidence in situations of controlled risk” (p. 228). Indeed, it is through nature that one senses there is something beyond one’s own self (Louv, 2008). The ability to be absorbed in nature, to become a part of something greater, creates a lasting positive impression: “Immersion in the natural environment cuts to the chase, exposes the young directly and immediately to the very elements from which humans evolved: earth, water, air and other living things” (Louv, 2008, p. 96). Louv (2008) writes the book to encourage others to seek what he calls the “third frontier” which is his answer to “nature-deficit disorder”, a non-clinical term he uses to describe the growing gap between how today’s children experience nature (or don’t experience nature; Figure 47) in relationship to previous generations. Louv (2008) provides a description that acknowledges the individual-to-group or self-to-other association in a different way than has been previously mentioned here. He points out that the natural environment remains a significant decision maker in how the camp layout develops. The distance between all the programmatic functions should be choreographed for function (storage areas should be easily accessible but remain visually camouflaged) as well as for narrative (there should be a celebrated progression: entry, drop off point, cabins or dining hall, main feature – the lake). The result would likely combine the processes with the poetics to form a maintainable yet inspiring adventure.

In connection with proxemics is how the arrangements of buildings will reinforce community and membership in the setting. This is targeted to the idea discussed earlier in the context of role playing and non-typical interaction: multiple spaces that invite interaction; ability to transpose self to environment; elements included for comfort; meeting the user’s needs. This is not only about the human component, but also the architecture component. How will the buildings sit out to one another? How will they feel? What will it mean to the setting that there is open space between? Will there be open spaces? What are the defining aspects of interior versus exterior spaces or is it continuous?

Proxemics (including adjacency studies; Figure 46) becomes a significant design tool in how the camp is laid out. The distance between buildings is a significant decision maker in how the camp Function (Storage) area should be easily accessible but remain visually camouflaged (for a non-seeming interaction; entry, drop off point, cabins or dining hall, main feature – the lake). The result would likely combine the processes with the poetics to form a maintainable yet inspiring adventure.
He fears that "as the young spend less and less of their lives in natural surroundings, their senses narrow, physiologically and psychologically, and this reduces the richness of human experience" (Louv, 2008, p. 3). It is nature that "introduces children to the idea – to the knowing – that they are not alone in this world, and that realities and dimensions exist alongside their own" (p. 296). The natural environment also offers relief for children living in destructive homes or neighborhoods; "it serves as a blank slate upon which a child draws and reinterprets the culture's fantasies" (Louv, 2008, p. 171). As a result children may exhibit "ecophobia", a disconnection that impedes other desirable behaviors and activities (p. 171). Louv (2008) believes that nature can help "instill instinctual confidence" by activating all the senses to their full capacity thereby providing "a child's primal first line of defense" (p. 181). Frank Ashley (1990) in an article on minority involvement in adventure programs relates an interaction with a colleague to explain why there might be a lack of desire to participate in outdoor programs:

"Some consideration should be given to what happens prior to camp. How is the camp presented to the members of the BGCM? How is the experience built up so that the perception either parents or children have of camp is one of excitement and adventure? Are there institutional meetings that present the realistic aspects of nature, that include combating aspects of media representations that lead to insecurity or fear?" (p. 152)

In the context of all that the natural environment offers, including what the following section on place preference introduces, it might be important to keep in mind the following statement: it is only the reader and the author that there are some individuals who may, even after their experience in the camp, and all of the planning based on the research contained in this thesis, will still prefer the home environment and the behaviors it may promote:

"Most people like their home environment, however unattractive or dangerous it may appear to outsiders. They become attached not only to their companions, but to the scenery and to the way of life that the scenery dictates. (Ross, 1974, p. 153)"

This does not negate what this thesis is trying to do, it only serves to point out what has been previously mentioned: in some instances, what has been learned first, in a previous situation, interferes with and maybe overrides, two learning.
"Why would someone raised in Brooklyn, New York, want to go out in the woods with mosquitoes, no bathroom, and no air conditioning? There's no logical reason to. Why sleep on the ground outside or risk breaking your neck climbing on the side of a mountain? After exploring the concept of adventure to him then asked, "Why do you need adventure? Growing up black in Brooklyn was all the adventure you needed for the rest of your life! This reaction is not uncommon for many minorities. Some individuals feel that they do not need these kinds of experiences on challenges. To many of them, being a minority and trying to survive the challenges of everyday life is an adventure in itself." (p. 372)

Louv (2008) may have been aware of this argument or thinking, as he provides a counterpoint:

Ideally, a child learns to negotiate both city and country. Mastering each environment builds the senses and common sense. Building the senses and common sense...A child could gain some kind of experience and ability to assess a dangerous environment in a city, hiding out on a subway... (However) a city's structure provides a mystery and probably impossible quality... (The) original experience (of interacting in the natural world is closer to the natural world I've learned for millennia... the other experiences don't reach as much, p. 187)

Furthermore, Louv (2008) points to studies that show a link between public parks and recreation facilities to reductions in crime, specifically a reduction in juvenile delinquency (p. 179). Studies also show gains for risk youth involved in educational outdoor programs (Louv, 2006, p. 206). Louv (2008) makes the point that recreation programs such as summer camps are “benedicts” for single parents, and that “a good summer program can literally mean survival for some children who live in rough neighborhoods” (p. 179). Perhaps, though, it is not about the survival skills that may be learned in either the natural or the child's home environment, but instead is about the other positive aspects (as previously mentioned) that the natural environment supports, encourages, and enhances, or even about a new experience in and of itself.

Place Preference

Race preference studies show that "favorite places" have strong emotional attachments for children and that outdoor environments are among these places that hold significance for them (Korpela, 2002). Unlike other favorite places, though, outdoor spaces have a greater emotional significance relative to the actual time spent in them (Korpela, 2002, p. 365). Within the outdoor environment hiding places, lookout places, woods, and hills are attractive as special places (Korpela, 2002); children are "drawn to the rough edges of such places, the ravines and rocky inclines, the natural vegetation" (Louv, 2006, p. 117). Adolescents value outdoor places that offer freedom and By the conclusion that outdoor spaces hold greater significance in proportion to the little amount of time spent in them, this passage implies that outdoor experiences are more rewarding. This can happen if a camper is able to locate a favorite place within the camp environment, use that place to build self-awareness, and call upon the favorite place in the home environment as a means to impart confidence, control, and self-awareness.

Place Preference studies show that "favorite places" have strong emotional attachments for children and that outdoor environments are among these places that hold significance for them (Korpela, 2002). Unlike other favorite places, though, outdoor spaces have a greater emotional significance relative to the actual time spent in them (Korpela, 2002, p. 365). Within the outdoor environment hiding places, lookout places, woods, and hills are attractive as special places (Korpela, 2002); children are "drawn to the rough edges of such places, the ravines and rocky inclines, the natural vegetation" (Louv, 2006, p. 117). Adolescents value outdoor places that offer freedom and
control, “they long for solitary places as well as places for interaction” (Korpela, 2002, p. 364). There is a direct connection between the individual and the choice of environment:

The development of place preferences is tied to the development of self-identity, needs of privacy, and social affiliations. Middle childhood, ages 6 to 11, is characterized by expansive local exploration, cooperation with others in exploring and in games, a self-identity determined by physical strength and abilities, and creation of playhouses and forts in the nearby environment. … Place preferences during childhood and adolescence are assumed to provide support for the developing self-identity, the need for security, social attachments to caregivers and to the peer group, and the practice of social roles. (p. 365)

Also, there are variables that affect favorite place selection:
- Prior exposure to different environments
- Rural versus urban upbringing
- Parental restrictions on environmental exploration
- Vicarious familiarity with diverse environments through the media
- Peer’s preferences (p. 366)

Moreover, within an environment, choice may be a reflection of emotion. In a camp setting, it is suggested that campers “with higher levels of negative emotion” chose places that offer solitude, while “happier” campers explored social spaces with opportunities for interaction (p. 364). This suggests that “available environments regulate their own development by selecting and shaping user controls”; the physical environment, the choice of the favorite place, regulates “the experience of self and emotion” (p. 367). The ability to control, or to possess a sense of control is what helps with stress and depression (Korpela, 2002). The ability to personalize a private space also helps children and adolescents by providing them with “tangible signs that they are unique and different from others” (Korpela, 2002, p. 366). Favorite places are a means to achieve the goals that people strive for: “cognitive integration and consistency, anxiety reduction, and self-esteem maintenance” (p. 370).

Place identity is fundamentally formed by the experiences and cognitions in places that have a role in a person’s emotion and self-regulation. Thus, place attachment is implicit in place identity. Attachments are formed to places that fulfill people’s emotional needs and enable them to develop and maintain their identities (p. 366).

The emphasis on creating playhouses, forts, intimate shelters and treehouses (Figures 48 & 49) as a way to explore and participate in the development of self-identity also reinforces the importance of the natural environment, as well as in camp planning books. Daniel Beard, one of the founders of the Boy Scouts of America states in his 1914 book, <i>Shelter, Shacks and Shanties</i>, that “the most important thing . . . is that a tree-house is always a source of delight to the young people” (2008, p. 76).

The plaques and flags, as mentioned earlier, in addition to camp rituals that require campers to originate cabin names, songs, or dances are all examples of personalization. Incorporating these objects into the design, with the help of the campers themselves (taking the cabin and doing it) is a reinforcement and acknowledgment of a camper’s ability to control or otherwise influence their environment. Furthermore, granting the campers the ability to individualize their space in a camp is important. This may be as simple as providing a dedicated space for storage that is reserved for each camper (which might include an area for a name plate, or a chalkboard, whiteboard or the like, where campers can add a personal touch).
The previous explanation underscores what Juhanni Pallasmaa (2005) believes is "the task of art and architecture"; to "reconstruct the experience of an undifferentiated interior world in which we are not mere spectators, but to which we inseparably belong" (p. 25). Indeed, the excerpt reaffirms the notion that there is an inherent, intimate link between an individual's internal world - their intellectual, psychological, and moral self - and their physical surroundings. Thoughtfully taking into consideration a person's characteristics - their developmental stage, sensing capacities, etc. - while considering the characteristics of the environment of which they will inhabit - the history, setting, etc. - allows for a more holistic and user-centered design. In this way, architecture becomes "en-encompassing" because it addresses "all the senses simultaneously" and fuses the "image of self" with one's "experience of the world" (p. 11). It is the "essential mental task" of architecture to accommodate and integrate the "experiences of being-in-the-world", thereby strengthening one's "sense of reality and self" (p. 11).

The conclusory paragraph places a significant task on the master plan design: to facilitate young adolescent development (all aspects) by creating an environment that promotes the development of the self. The design should allow for the individual to become self-actualized and discussed in the research sector (ideas for design) and comparing it to the background information (rules for design), the designer should be able to informatively make decisions that support the design task. In this way, the design will both the mission and goals of the SSIP and work to promote the individual's development, as well as help individuals that come into contact with it and should in turn create a reciprocal sense of care for the environment.
Figure 53 shows the first process scheme for the Camp Phoenix (Figure 50) master plan. In this proposal, the dining room is renovated, or replaced with a new structure, but remains in its current location. Attached with a continuous boardwalk are rows of small cabins and bathhouses under a shared roof (Figure 54), forming a complex that resembles an interior street with sidewalks and houses. The interior street serves as a controlled play space where campers can engage in multiple forms of play and still be supervised. The meadow area becomes a satellite camp that utilizes the existing cabin and remains as a more traditional camping experience. The idea is that campers would be welcomed to the initial complex as a "home base". Their daily routines would take them out into the adjacent woods and down to the lake, but at days end they would return to "home" where the gathering/reflection space would be the campfire area, accessible by way of the boardwalk. Throughout the week, campers would become familiar and comfortable with the new environment and would feel able to take the "risk" of staying overnight at the satellite camp as a finale experience.

To negotiate the tedious walk to the lake, interactive stations are placed along the path at convenient distances. These could be informal activity areas that provide shade, water, a place to sit, and a "look for" station, or game board (e.g., Can you locate an example of these native plants or animals? Where are they?) or an informative sign that gives information about the edge conditions, or the mediating low-scale vegetation that transitions grass area to woods, where animals forage. In this way, the length of the walk is broken by activity - learning through play.

Provided at the lake are shade stations, restrooms, boat storage and, within view and sound, the pool. Swimming tests could be conducted in the pool as could initial canoe or boating demonstrations. By being adjacent to the lake, campers could make a connection between the natural body of water (the pool) to the large body of water (the lake) and transfer what they learn in the pool to the lake. The plan also suggests an screening tent that protects the swimming area and provides a partial boundary (Figure 55). However, because of the changing water levels, the dock would need to be designed with floating levels, hinging connections and would be usable; most likely a permanent structure is not feasible.

This design scheme is a direct response to the concern for security and enclosure. It is based on the idea that by reflecting the density of an urban environment, the camper will feel an immediate comfort upon arrival and will be more willing to adventurous and take risks in the new environment.

While this scheme aims to form enclosure, the central complex may be too insular, becoming restrictive rather than integrative.
Process Scheme Two

Figure 57 shows the second process scheme for the Camp Phoenix master plan. In this proposal, the complex presented in Scheme 1 opens up and stretches the cabin arms outward, embracing play areas that now face the woods. The dining hall becomes a mediator between the cabin groups, acting as a central point for cabins that serve girls on one side, boys on the other, or younger children on one side, older children on the other. The campfire area is on axis with the dining hall and provides a convenient gathering area. In this location, it is accessible during the day and at night. All paths of entrance or departure are generated from the complex.

Activity areas are placed along the path to the satellite camp (which provides the same service as proposed in Scheme 1) and are isolated to provide for focused attention and reflection at each event. A new path is made connecting the complex to the swimming area, shortening the travel distance. The pool, boat house, and bathhouse are located along this path, adjacent to the lake as in Scheme 1. Also, as in Scheme 1, shade stations and a long dock are located at the waterfront.

This design scheme is an adaptation of the previous one that seeks to better integrate the dining-living complex into the surrounding environment and provide more separation between the cabin groups.

 NSTS

Dining Hall Precedent 1

Figure 56. (“Boy Scouts”, 1927)

Nature Center, Exterior

Figure 58. (Ward, 2009)

Nature Center, Exterior Overlook

Figure 59. (Ward, 2009)

Case Study: Mercer Slough Environmental Education Center in Bellevue, WA.

* immersive experiences in natural surroundings with little impact to environment by elevating above the forest floor and threading through open spaces in forest canopy
* boardwalks connect buildings and serve as teaching and teaching spaces
* light color reflective roofs and extensive tree cover shade and cool the air surrounding the buildings thereby serving as “air-conditioners” (Ward, 2009)
Figure 61 shows the third process scheme for the Camp Phoenix master plan. In this proposal, the ideas from the two previous schemes are transferred onto existing site conditions. The western sets of cabins are renovated and connected by a raised and covered boardwalk. The campfire area is enlarged with permanent seating and a fixed fire pit. The dining hall is renovated, but remains in place. The meadow remains the same as does the path to the archery area. The path to the lake incorporates the interactive or rest stations proposed in Scheme 2. In addition, activity areas are positioned incrementally along the path. The pool, pool pavilion, bathhouse and boathouse are located on a rise that looks out over the lake. Still generally connected, this group of buildings allows for a secondary gathering area closer to the lake. The swimming area is designated by moveable floating docks instead of a permanent structure.

This scheme serves as a transitional plan and suggests how the camp might change through phases. Consideration would need to be given to connecting the bathhouses with the cabins and proposing a secondary, more direct route from the western cabins to the lake.
Figure 68 shows the fourth process scheme for the Camp Phoenix master plan. In this proposal, there is a major shift, with the buildings— including the dining hall and cabins— pushed towards the lake. The current dining hall becomes a recreation hall connected to the bathhouses. The western cabin and bathhouses, the buildings at the meadows, and the director’s house and TLC cabin are removed. The path to the lake, moving south, includes storage buildings for bikes, the current pavilion, an arts and crafts cabin, the ranger cabin, the campfire area, the dining hall and the pool area.

As in Scheme 1, the cabins are positioned across from each other to form a street. The cabin shown in the plan is elevated off the ground (Figure 69) and include bridges that cross over the path. At the end of the northern cabin structures are bathhouses that serve to divide the two groupings. Also in between the two cabin groupings is the campfire area which leads to the dining hall and pool. Those two, the dining hall and pool, occupy the high point.

This scheme reintroduces the satellite camp, but this time it is a grouping of tent platforms (Figures 75–77) positioned on a western ridge. The platforms are located in a clearing under a high canopy of pine trees. This scheme, like the previous ones, also incorporates the idea of a gateway and a series of portals/thresholds that announce the campsite.

This scheme capitalizes on the asset of the lake by positioning buildings close to the swimming area.

Figure 68. Process Scheme Four
(by author, 2010)

Figure 69. Cabin Sketch—Elevation, Section, Plan
(by author, 2009)
Figure 73 shows the fifth process scheme for the Camp Phoenix master plan. This proposal is a refinement of Scheme 4, incorporating an existing secondary swimming area. Modifications on this plan were developed from site visits. In this plan, the Camp Director's house is sited at the point of entry, as is a hiking/biking trail. The current dining hall becomes a less significant building in this plan, yet still remains, as do some of the other buildings that the previous scheme omitted.

Along the path to the secondary swimming area is a rest station and activity areas that contain a team climbing wall and a ropes course. The archery area remains as previously designated.

In this plan, the pool shifts to the open area of the meadows, and the camper shifts to become a node, the connection point for various paths. There are only two sets of connected cabins, but they remain across from each other, without a bridge. The boardwalk shifts from being the container for the paths to merely a connection that passes through each cabin. The bathhouses are moved to the dining hall, which still rests on the high point.

At the lake front, a line of floating docks is shown. These docks are connected to the piers that are currently in the water. To the west of that is a small campfire area that may be used at night. From there a path continues to a marshy area where campers may go to listen to bullfrogs croaking in the evening.

This plan also incorporates clearings that might be used for play or reflection. Where the western cabins are currently located are two clearings, and two additional clearings are shown to the south under the tree canopy.
Process Scheme Six

Figure 79 shows the sixth process scheme for the Camp Phoenix master plan. This proposal is a variation of Scheme 5 that suggests moving one of the cabin groups to the west in a clearing. The campfire shifts to be the meeting point between the two groups. Positioning the cabins apart allows one group to be more adventurous. (Younger campers may prefer to be in the cabins that are closest to the dining hall.)

Process Scheme Seven

Figure 80 shows the seventh and final process scheme for the Camp Phoenix master plan. This proposal is another version of Scheme 5, whereby the secondary swimming area becomes the primary swimming area. In this plan, the primary swimming area is located to the west of the dining hall, with the activity area shifted to the western clearing. The new site for the cabins is also different from the previous sites. In this plan, more than any other, the built area is stretched across much of the site.
Figure 81 shows the proposed master plan for Camp Phoenix - a compilation of the seven previous schemes, the information provided by the BGCM, and the research shown herein. Each identification below is followed by a description that details qualitative aspects of the building, place or object. The description is followed by categories to which the building, place or object can be ascribed.

1. Camp Director’s House: (Figure 84-85) A combination of the current house and the previous one to create a single residential building. The additional space will include an office/sleeping area for director, storage and bathhouse; nurse’s station; kitchen and laundry to remain; loading dock to remain here; check for ample storage; may include seating elements (natural - large rocks) or observation towers; may also be ideal location for camp fire area or secondary vehicles coming onto the site (functional; programmatic).

2. Gateway: (Figure 82-83) The pathway and structure leading to the main entrance. A welcoming entry point with a sign containing words describing positive characteristics, paintings done by campers, or other memorabilia. Emphasis is placed on the arrival to camp (experiential learning; history; tradition).

3. Meadows Play Field and Nature Pavilion: (Figure 86-87) A multi-functional area that can be used for a variety of activities including sports, picnics, and nature/animal observations (programmatic; history; tradition; thermal; experiential learning; developmental; play).

4. Renovated Cabins and Bathhouse for Staff: (Figure 88) Renovations to cabins include improvements to screen/window system, addition of porch, increased natural light, skylight repair or lantern/stack ventilation, rodent protection, improved bedding and storage; bathhouse to be renovated to increase privacy, natural light and ventilation; buildings may also be used for camper activities, nurse’s station or storage (functional; programmatic; history; thermal).

5. Elevated Camp Cabins: (Figure 96-98, 101-103, 124-126) Build and install new cabin design including additional wells, necessary access paths, doors, etc., accessible performance platforms, gathering space, etc. (programmatic; tradition; thermal; experiential learning; developmental; play).

6. Boat Barn: (Figure 90-91) Build storage building for canoes, paddle boats, small of ceremony area; may include nurse’s station; kitchen, laundry and cooler to remain; loading dock to remain here; check for ample storage; may include seating elements (natural - large rocks) or observation towers; may also be ideal location for camp fire area (functional; programmatic; history; thermal).

7. Water Station: (Figure 80-81) A permanent water station at three locations to include a single drinking fountain and toilet. It may also provide an opportunity to reach the water surface to touch facilities (thermometer, facilities).

8. Archery Pavilion: (Figure 89) A combination of the current pavilion and the previous one to create a single archery pavilion. It will include additional space for equipment (functional; programmatic; history; experiential learning; developmental; play).

9. Adventure/Ropes Course: (Figure 87-88) Build and install new structure to support multiple platforms for both treetop or ground level activities. It will include options for tree climbing along with performance and gathering spaces, etc. (programmatic; tradition; thermal; experiential learning; developmental; play).

10. Secondary Swimming Area: (Figure 83) Maintain and repair as needed at current site, add additional docks, maintenance and repair as needed at current site, add additional docks, maintenance and repair as needed at current site, add additional docks, maintenance and repair as needed at current site, add additional docks.

11. Elevated Camp Cabins: (Figure 96-98, 101-103, 124-126) Build and install new cabin design including additional wells, necessary access paths, doors, etc., accessible performance platforms, gathering space, etc. (programmatic; tradition; thermal; experiential learning; developmental; play).

12. Elevated Camp Cabins: (Figure 96-98, 101-103, 124-126) Build and install new cabin design including additional wells, necessary access paths, doors, etc., accessible performance platforms, gathering space, etc. (programmatic; tradition; thermal; experiential learning; developmental; play).

13. Pedestrian/Reflection Areas: (Figure 89) A place for individuals to gather, reflect, and enjoy the natural beauty of the camp. It will include features such as benches, pathways, and water features (functional; programmatic; history; thermal; experiential learning; developmental; play).

14. Dining Hall: (Figure 90-91) A combination of the current dining hall and the previous one to create a single dining hall. It will include additional space for dining, gathering, and performance (functional; programmatic; history; thermal).

15. Safety Area: (Figure 82) Build and install new structure to include a fire pit and seat surrounds; at this location, seating to be built using existing facilities (programmatic; history; tradition; thermal).

16. Boat Barn: (Figure 89-91) The pathway and structure leading to the main entrance. A welcoming entry point with a sign containing words describing positive characteristics, paintings done by campers, or other memorabilia. Emphasis is placed on the arrival to camp (experiential learning; history; tradition).

17. Mobile Beach-Buggy: (Figure 85-86) A build platform on trailer chassis to include a simple shading device, platform for water dispenser and seating; may also include a misting or fan system similar to beach buggy (functional; thermal).

18. Primary Swimming Area: (Figure 81) The area for swimming, including the main swimming area and a secondary location. This area may provide more beach with less rocky hazards if water level is acceptable, but view and water use (functional; programmatic; history; tradition; thermal; experiential learning; developmental; play).

19. Satellite Camp: (Figure 82-83, 85-86) A build platform on trailer chassis to include a simple shading device, platform for water dispenser and seating; may also include a misting or fan system similar to beach buggy (functional; thermal).

20. Bike/Trial Track: Existing existing natural paths for biking and hiking; one职业教育 trail for additional recreational opportunities (functional; history; tradition; thermal; experiential learning; development; play).

21. Experience/ Night Trail: (Figure 77) Three pathways are designed to house views of natural type promenades along each trail. These pathways are designed to provide additional opportunities for the night sky. A person may enjoy the night sky in this area, however care must be taken to ensure safety is maintained. The pathway will be included as an additional feature for the night sky. The pathway will be included as an additional feature for the night sky.
Given the research, the case studies (Figures 58-59, 62-63, 74, 100-102), various precedent studies (Figures 51-52, 56, 60, 64-67, 70-72, 78, 92-93, 103-107, 111-119, 127-129), and the back-ground information, focusing design on the camper cabins seems a logical step in the development of the thesis. All points of the research converge in this building type, and the formation of the building group (Figure 108). Combining the aspects of history, experiential education, play, place preference and program, the cabins can serve a polyvalent role in positive behavioral development. Setting below a high tree canopy, they increase the user in the natural environment; because of their elevated sta-tus, the cabins and connecting walkways provide a sense of security and control, while also inspiring excitement and adventure.

The plan and form for the cabins is derived from the dog-trot house (Figures 94-95), a southern vernacular housing typology. In the Boy Scouts of America’s 1927 publication, Camp Site Development Plans, the author(s) offers that camp buildings should take into account the type of architec-ture in the surrounding area. For the central south, the saddle bag, or dog-trot, is suggested (“Boy Scouts”, 1927). The author(s) further encourages designing with a vision of the historical adapted for the modern (“Boy Scouts”, 1927). Vernacular building traditions show thermal adaptation using forms and materials that moderate “unfailing climatic conditions” (Krech, 1975, p. 6). The dog-trot has seen such examples because it offers a covered, centrally-located open space. Furthermore, the open porch space serves as a gathering space, “places with desirable thermal qualities naturally tend to become social spaces as people gather to take advantage of the comfort found there” (p. 44).

Elevating the cabins further increases thermal capabilities (cooling) as does placing the structures under the tree canopy (Figures 120-123). Consideration has been given to the development of a wall system that facilitates natural ventilation for comfort through a layered screens and lower system that is user controlled (Figure 112). The thought processes for this design inputted on simplistic structure in hot, humid climates where dwellings were constructed to reduce thermal mass to “absorb light materials...to avoid ventilation of heat” (Krech, 1975, p. II). In the same structures, ventilation was maximized to increase the potential for evaporative cooling by placing large openings in the walls or eliminating walls altogether” (p. 9). The cabins are also designed to be easily constructed and maintained using typical framing materials and screen doors available at most home improvement stores. Additionally, ideals - including the absence of overhangs - are meant to reduce light and radiant heating, or at the very least, make it easier to keep areas clear. If the natural ventilation system fails to meet client or user requirements, com-ponents can be switched out and heating and cooling equipment can be placed in the storage area. All of these design qualities meet the functional objectives of thermal comfort, flexibility, amenity, and durability.
This layout speaks to the research about play spaces (curvilinear in form), gathering spaces (circles naturally evoke community), and patterns of play (curvilinear play areas at the back). The play areas provide a social context that is also known to be more enjoyable. This space is the same size as the entire floor plan. The porches provide a cool, shaded space for gatherings, including types of play: imaginative, body movement, social, narrative, etc. The semi-public space also offers a rainy day area to gather, as well as a place to sit and reflect. Also seen in this image and the images that support this include storage. The trusses help to delineate space and offer face attachments for room dividers or hanging storage boxes/baskets. Dividers may occur in the sleeping area between each bunk bed, or between camper and counselor bunks; they may also be rigid or flexible (e.g., a curtain).
I imagine being ‘a swinger of birches’; I imagine climbing the boughs of a great oak tree to perch, quietly, atop the glory that is nature and to peer, just beyond that horizon, where I can see, to where I can be, anything. I imagine the red berries of holly bushes to be the divine fruit of a mystical brew, and as I stir it together with various seeds and wildflowers it becomes whatever dreams are. I look just beyond the window pane, (beyond the inside, to the outside) to where my pine straw floor plans lay scattered across the yard, great columns of ancient Greece and the precepts of modernism arise from the dirt – contrasting lines against the darkening sky. I take these memories and stitch them together a quilt of promises to my children and to theirs’ and so on and so on and so on . . . I spread them out before me and sink to the coolness of the earth; with my hands folded behind my head, I recline to the grass laden floor, to the moments when among everything that must be accomplished today – (in one day, at one time) this moment becomes . . . ‘all the difference.’ I look up to the dancing sky, to the passing of the clouds and of time, and I imagine.

(Quoted by author, 2010; ‘swinger of birches’ and ‘all the difference’ allude to poems by Robert Frost - “Birches” (1916) and “The Road Not Taken” (1916), respectively.)

In her short story “Everyday Use” (1973) Alice Walker tells the story of the varied relationship between a mother and her two daughters. The eldest daughter, Dee, returns to her rural home to visit her mother and younger sister. Maggie - why is it, revivified and reserved beneath the surface - becomes the brawn of the household, as she attempts to appease her mother’s needs to maintain her dignity and respect from her mother’s house that she feels have historical significance. She gathers a churn and detergent that were passed from her grandmother’s dresses which also included a small piece of fabric from her great-grandmother’s Civil War uniform. She asks her mother if she can take the quilts along with this churn, her train of thought running through her mind about those particular ones to Maggie. To this Dee responds, ‘Maggie can’t appreciate these quilts – ...’ Her precision leaves enough to put them to everyday use” (Baas, 1986, p. 2279). Her mother reasons, “I hope she will,” because that is what the quilts were meant for – use – and because Maggie knows how to quilt, she could mend them, or piece new ones if need be (p. 2279).

Louv’s (2008) concern for the growing distance between children and nature relates to Walker’s short story (Figure 130). He offers that nature is for everyday use, not to remain on display, untouched, unpollaged: “No child can truly learn to value the outdoors if the natural world remains unexplored. (Louv, 2008, p. 15).” Louv argues “a true sense of ‘interpersonal nuance’ can be achieved only by a child who is engaging all five senses by playing in the three-dimensional world” (Henig, 2008, para. 3).
CONCLUSIONS AND RECOMMENDATIONS

Given the research included herein, it is anticipated that implementing the master planning ideas and design elements as mentioned will impact behavior in a positive way. To what extent behavior will be affected is undeterminable at this point in time. While the theories stated in this document seem to show, not only that behavior modification is possible but that it is probable, application and assessment of the actual design will be the most telling factor. Some modifications have been made to the existing camp cabins by the University of Memphis, Department of Architecture, Design/Build Studio (shutters for security that don’t inhibit ventilation and new bunk beds with corrected storage) and have been well received (Figures 131-132). However, time will show to what extent the design impacts the user’s experience.

To further study the impact this built environment will have on the user, it is suggested that pre-assessment interviews, post-assessment interviews or both be implemented. These may be adminis-
terred in the camp environment, the home environment or both, through considerations in processing the information should factor the place into account. Additionally, the amount of time after or before the interview is given, relative to the time of the camp experience, should be taken into account when evaluating the responses. In this way, the administrators of the camp and the designer will know how best to proceed and where to make modifications, if necessary.

The implementation of the design might occur in phases, with priority given to the most crucial element(s) (e.g., the restroom facilities, the cabin, the dining hall, etc.). In the process of conversation with the administration of the camp, the suggestion of phasing the camp by a summertime (or when) was suggested. This idea should be given further consideration. If the camp complex was construct-
ed at one time, the strategies historically planned in the design may have more effect and greater impact.

One last note: The idealism and metaphor suggested by the name, Camp Phoenix (Figure 133), should be echoed upon in the imagery of the camp program, as is intended in the built environment. The concepts of transformation, inner excellence and beauty, and restoration support the mission of the SC2D: Promoting a healthy sense of self, whether through play, place preference, developmental achievement or experiential learning, increases the display of good behavior and the likelihood of retaining good behavior.