

2004

Nature is to nurture: a post occupancy evaluation of the St. Michael Health Care Center, Texarkana, TX

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**NATURE IS TO NURTURE:
A POST OCCUPANCY EVALUATION OF THE ST. MICHAEL HEALTH CARE
CENTER, TEXARKANA, TX.**

A Thesis

**Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Landscape Architecture**

in

The School of Landscape Architecture

**by
Leigh LaFargue
B.M.E., Louisiana State University, 1999
December 2004**

ACKNOWLEDGEMENTS

To the co-chairs of my committee, Susan Turner and Kevin Risk, thank you for your encouragement throughout this process.

To all of the participants at the St. Michael Health Care Center, Texarkana, Texas, without your input and stories I could not have put this document together.

To Corey Miller, thank you for your love, support, and help. Without you I could not have finished.

To Herpreet Singh, thank you for your realism and counseling throughout this past year.

To my family, thank you for your editing, patience, and support. Much love always.

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ABSTRACT

This thesis explores therapeutic garden design and its role in landscape architecture. It also conducts a post occupancy evaluation (POE) for an existing therapeutic landscape.

The St. Michael Health Care Center campus, Texarkana, Texas, is a Sisters of Charity institution and was designed and built in 1994 as a healing environment for patients, staff, and visitors. In this thesis, A POE was conducted to determine (1) user-perceptions and utilization of the campus, (2) whether the campus reduces stress and fosters restoration, and (3) any barriers or constraints to use of the campus.

Results from visual analysis, behavioral observations, and survey questionnaires indicated a number of benefits of the campus. The campus was perceived as a place of stress reduction and restoration. However, there was a lack of knowledge of the history behind the design and the healing benefits of the campus, and some areas were not utilized as often or as effectively as intended. Interviewees recommended changes for the campus, such as the inclusion of more flowers and greenery, and more raised beds for outdoor therapy. In addition, certain areas required more maintenance.

Based on the findings, recommendations for improvement were made. These findings can subsequently be used to inform guidelines for the design of future Sisters of Charity institutions, as well as other exterior hospital environments. By adding to a body of research, this evaluation provides a service to all of those involved in the design of healthcare facilities such as owners, users, medical planners, architects, interior designers, artists, and landscape architects.

CHAPTER I: INTRODUCTION

In this thesis I will explore therapeutic garden design as a component of landscape architecture. I will examine various aspects of therapeutic garden design including its history and culture, theory and research, and therapeutic effects of gardens in healthcare settings. I will also provide a post occupancy evaluation (POE) of the St. Michael Health Center campus in Texarkana, Texas, designed by James Burnett. This POE, through visual analysis, behavioral observation, and interviews, will assess the effects, advantages, and limitations of the designed space for its users.

Several factors have contributed to my interest in this thesis. I have an undergraduate degree in music education, and I was an elementary school music teacher for one year. During my undergraduate studies, I considered pursuing a master's degree in music therapy. I gained the training of a teacher. I am a good listener. I work well with others, and I felt that I could perform well as a therapist. While student teaching, I observed music therapists and became even more interested in using my talents to aid others in a healing process.

In 1997, my grandmother passed away. Before I had any knowledge of landscape architecture and before enrolling in graduate school, I was using nature and hands-on work with plant materials to help me deal with my grief. While teaching, I was also using nature and plants as a therapeutic process to reduce my stress. My plants became my support group, helping me to relax and feel better. As I searched for another field of interest, I became familiar with landscape architecture, a field that combines art with nature. I visited the school of landscape architecture and thought, "I like plants, I'm

creative, and I believe I can organize and plan spaces well.” By the summer of 2000, I was enrolled in graduate school for landscape architecture.

Once in the curriculum, I discovered therapeutic garden design within the realm of landscape architecture. I immediately started looking into it for pleasure and eventually realized it would be a fitting thesis topic. At that time I also began looking into horticultural therapy programs. With my interest in music therapy, horticultural therapy could incorporate therapy with landscape architecture. I decided to infuse all of this into my thesis.

Attempts to introduce nature into modern health care are constantly emerging. Landscape architects are noticing a surge of interest in the benefits of therapeutic gardens, both to the users and to the facilities that build them. Over the past two decades, the research of Clare Cooper Marcus, Roger Ulrich, Rachel Kaplan, Steven Kaplan, and many others has revealed the therapeutic benefits of nature in environments used by people. As therapeutic gardens are becoming more mainstream in modern healthcare design, more research is necessary to determine how effective they are, and how they can be better designed to meet patient and staff needs.

In this thesis, I will provide a POE of the award winning St. Michael Health Care Center campus in Texarkana, Texas. This POE will not only aid in making our profession more accessible to the public and to other professions, but will contribute to the body of criticism necessary for our profession to develop and advance. It will also help to test or refine emerging concepts and ideas involved in therapeutic garden design and its role in modern healthcare.

In Chapter 3 of *Healing Gardens: Therapeutic Benefits and Design Recommendations*, Marni Barnes defines POEs as “studies conducted in a designed setting--in this case, a landscape--with the goal of assessing the advantages and limitations of that space for its users and non-users. Data collection most often incorporates observation and self-report gathered through interviews with the users” (Barnes, 1999). Barnes’ definition of a POE serves as the basis for the POE in this thesis. My intent for using a POE is to discern a primarily qualitative analysis of data. In this study, visual analysis, behavior observation, and self-reports are the suitable method due to the nature of the information sought. Evaluation of observations and interviews will provide landscape architects and other design professionals with a better insight of how to design therapeutic gardens. The POE is most beneficial when later used as a key in the research and design process of other therapeutic spaces. History of the POE as a tool will also be examined.

This thesis includes two components. The first is to explore therapeutic garden design and its role in landscape architecture. A plethora of information and research exists on this topic. The second is to conduct a POE for an existing therapeutic landscape. This evaluation is an effort to provide a service not only to the designer of the St. Michael campus, but also to designers of other therapeutic gardens in modern healthcare settings. Healthcare and therapy professionals will also benefit from this information. The therapeutic garden is a unique opportunity for professionals from different fields, all committed to serving the public, to collaborate in the development of a new and sustainable healthcare system.

This study will detail one campus. There will be no comparative analysis. Relevant research on the therapeutic qualities of natural settings will be explored and will serve as a basis for observation and interviews. History and description of the facility and the campus with its gardens will also be examined. Based upon the interaction between the real environment, the observed environment, and the perceived environment, I will draw my conclusions and evaluate what I have learned from this process.

CHAPTER II: LITERATURE REVIEW

This literature review provides a historical and cultural overview of therapeutic garden design. It also provides contemporary information regarding therapeutic garden design that includes contemporary views, contemporary action, and current relevant research. Finally, this literature review will conclude with a rationale that establishes the appropriateness for considering the exterior environment in the design of healthcare settings and the goals of the POE. Terms used for introducing nature into modern healthcare will take on different forms such as “contemplative gardens,” “healing gardens,” “restorative gardens,” and “therapeutic gardens.” For the purposes of this literature review, the terms “contemplative,” “healing,” “restorative,” and “therapeutic” will be used interchangeably. Relatively, all suggest that gardens improve the environment and well-being of users.

While this study focuses on a contemporary garden and healthcare setting, it is important to first view gardens in healthcare settings in a historical context. Historical and cultural information examines views of the garden and its role in healthcare settings, as well as the history of hospital design. The use of the garden in health care settings has gone from being an important part of healthcare to being almost nonexistent over the centuries. Yet, as history would have it, the garden has come full circle to provide a critical element needed in healthcare settings for its restorative power.

While conducting this investigation, the increasing body of current literature has become apparent. Contemporary views and action are examined in addition to current relevant research conducted by experts in the fields of environmental psychology, natural resources, and landscape architecture.

Historical Information

According to Nancy Gerlach-Spriggs, a registered nurse and landscape architect, humankind has enjoyed the therapeutic qualities of gardens for thousands of years, and the idea of a garden used as a form of therapy is not a new one. “Restorative or healing gardens for the sick have been part of the landscape of healing since medieval times. Such gardens have been parts of hospitals, hospices, rehabilitation centers, and more recently nursing homes for the infirm and elderly” (Gerlach-Spriggs, Kaufman, Warner, 1998).

The restorative garden as a reflection of individual emotion, cultural training, and social support originated in Persia, Egypt, and the Orient, where its existence has continued unbroken since the birth of history. Such gardens first appeared in Europe during the Middle Ages, and subsequently took on altered forms around the middle of the eighteenth century. In our own time they have been given still other embodiments in rehabilitation programs, cancer, and AIDS treatment facilities, nursing homes, mental hospitals, and hospices for the dying. (Gerlach-Spriggs, Kaufman, Warner, 1998 p.7)

Written references to the garden date back to the mythical *paradise* gardens, where Eden was a fertile, fragrant oasis of delight. In the Middle Ages, monasteries kept utilitarian gardening alive by appropriating the “symbolism of the walled *hortus conclusus* (enclosed garden), while aristocrats and poets embraced the secular garden paradise of the *hortus deliciarum* (garden of delight)” (van Zuylen, 1994). The enclosed garden, also known as a cloister garden, symbolized the Garden of Eden and the hope for a better life. The garden was subdivided into four squares by four paths, which crossed at the center. These four paths represented the four rivers that flowed from the Garden of Eden. In Europe, enclosed, human-scale therapeutic gardens first appeared in monasteries and hospitals that cared for the sick and insane.

In the late Middle Ages, mysticism and the inclination toward monasticism faded, as did the institution of the enclosed meditative space. The care of the sick fell upon church and government and the focus of the garden shifted away. Courtyards and open spaces in hospitals were no longer important. Gardens ensued only for the wealthy or as chance architectural flukes. In Catholic hospitals, churchlike designs were created with long wards so every patient could see the priest saying Mass. These designs prevailed for a long time. “The windows were so high up on the wall that neither patients nor nurses could see the formal grounds outside” (Gerlach-Spriggs, Kaufman, Warner, 1998).

Though this style had waned, there were still some hospitals that maintained the courtyard tradition. Les Invalides in Paris (1671) included a number of courts planted with rows of trees. John Howard (1726-1790), the English hospital and prison reformer, described gardens for patients in hospitals in Marseilles, Pisa, Constantinople, Trieste, Vienna, and Florence. “In all these hospitals he admired the flow of fresh air, the chance for patients to see gardens through their windows and doorways and the opportunity for convalescent patients to walk in the gardens” (Warner, 1994).

During the seventeenth and eighteenth centuries, the emergence of Romanticism and scientific medicine encouraged the revival of outdoor spaces in hospitals. “The notion that infections were spread by noxious vapors spawned designs that paid special attention to hygiene, fresh air, and cross-ventilation” (Marcus and Barnes, 1999). This new design became known as the *pavilion hospital* and drew its inspiration from the principles and practices of hygiene. Gardens were once again given priority in healthcare settings. Examples such as the influential Royal Navy Hospital at Plymouth, England, and the rebuilt medieval Hotel Dieu in Paris incorporated outdoor spaces between the

wards. Mature Romantic expression endowed garden spaces and prompted a reconsideration of the role of nature in spiritual and bodily restoration. Now heightened, revitalized Romantic attitudes of the garden brought back its relationship with the therapeutic enterprise. Once again, outdoor spaces began to be viewed as a fundamental component of the healing environment. German theorist Christian Cay Lorenz Hirschfeld (1741-1792) beautifully illuminates the prescription for hospital siting and hospital garden design during this time:

Hospitals are to be situated outside and away from cities, to allow for garden space. Hospitals should be located away from busy urban areas in a healthy and positive and inspiring location, not in valleys...but on sunny, warm, hilltops protected from the wind or on southern slopes on dry soil.

A hospital should lie open, not encased by high walls, not fenced in by looming trees. The garden should be directly connected to the hospital, or even better, surround it. Because a view from the window onto blooming and happy scenes will invigorate the patient, a nearby garden also invites patients to take a walk.

The plantings, therefore, should wind along dry paths that offer benches and chairs. Clusters of trees are preferred to alleys of trees, which through the years will mature and meet at the top so that air will not circulate...Sad conifers should not be used but trees with light and colored leaves and flowering and fragrant shrubs and flowers. A hospital garden should have everything to encourage the enjoyment of nature and to promote a healthy life. It should help forget weakness and worries and encourage a positive outlook; everything in it should be serene and happy. No scene of melancholy, no memorial of mortality should be permitted to intrude. The spaces between the three groups could have beautiful lawns and colorful flower beds.

Noisy brooks could run through flowering fields, and merry waterfalls could reach your ear through shady shrubbery. Many plants with fortifying fragrances could be grouped together. Numerous songbirds will be attracted by the shade, peace, and freedom. And their songs will rejoice many weak hearts.

As decorations you could...build seats with a roof or a gazebo from which the view is magnificent. (Spriggs et al, 1998).

Not many hospitals in America or Europe adopted this flourishing landscape. Those that did chose sites located on the edge of town. The late eighteenth and early nineteenth centuries saw positive changes in the design of psychiatric hospitals and in the treatment

of psychiatric patients. Psychological nurturance began to replace physical punishment as a form of treatment. This period also incorporated maintenance, gardening, and farming back into the therapeutic regimen. The new, hygienic pavilion hospital became the prevalent form throughout the nineteenth century. Florence Nightingale (1820-1910), the influential nurse and public health reformer, wrote enthusiastically of these new plans:

Second only to fresh air...I should be inclined to rank light in importance for the sick. Direct sunlight, not only daylight, is necessary for speedy recovery...I mention from experience, as quite perceptible in promoting recovery, the being able to see out of a window, instead of looking against a dead wall; the bright colors of flowers; the being able to read in bed by the light of the window close to the bed-head. It is generally said the effect is upon the mind. Perhaps so, but it is not less so upon the body on that account...While we can generate warmth, we cannot generate daylight. (Warner, 1995, p.24).

In *Healing Gardens*, Clare Cooper Marcus and Marni Barnes emphasize that the twentieth century has seen one of the most rapid periods of social change in human history. Parts of the Western world have seen devastating effects from two world wars. As industrial and technological innovations have produced an increasingly fast-paced world, progress has become interchangeable with profits and efficiency. The understanding of germ theory, swift advances in medical science, technical advances in high-rise construction and the use of elevators, and increasing demands for efficiency led to the replacement of low-rise pavilion hospitals with multistory medical complexes. A revolution occurred in the design of hospitals that led to present day hospital design:

The steady advance in treatment practices, surgery, and medicines also brought cures where there had been only care. The losses came from the effects of specialization and the focus on the patient as an organism with a specific pathology. As patients thus became components, not entities, the hospital itself more and more resembled the environment of the office and the laboratory. Patients became diseased entities, not self-healing humans

who sought the assistance of scientifically trained physicians and nurses in order to recover. In acute care hospitals, the design emphasis shifted towards saving steps for physicians and nurses, and away from attention to the environments the patients experienced. Gardens disappeared, balconies and roofs and solaria were abandoned, and landscaping turned into entrance beautifications, tennis courts for the staff, and parking lots for employees and visitors. These trends which so captured the twentieth century American acute care hospitals spread, after World War II, by the processes of fashion to long-term and chronic care facilities, to the hospitals of the Veterans Administration, to mental hospitals, and to nursing homes. The prestige of the big city teaching hospitals with their gardenless patient environments set the styles for all the others. (Gerlach-Spriggs et al., 1998, p.25)

In the healthcare field today, pressure from insurance companies to minimize hospital stays have largely worked against the provision of actual usable gardens in refurbished or new medical complexes. When suitable garden spaces do exist, information about such an amenity is rarely found at the information desk. “It seems as though the hospital garden in the late twentieth century has become an invisible and ignored amenity, and awareness of its possible restorative benefits has been lost in the world of high-tech machines, high-cost drugs, and increased medical specialization” (Marcus and Barnes, 1999). Even with new professions such as occupational therapy and horticultural therapy that use gardening as a planned activity linked to patients’ therapeutic regimen, hospital design has managed to leave the landscape as simple decoration rather than therapeutic benefit. In the twentieth century, hospital design has suffered from the misplaced priorities of our culture.

In healthcare settings today, the forgotten garden can be compared to the ignored psyche and spirit in the treatment of illness. It is difficult to quantify or prove the value of a garden and the role of the psyche in healing. But as our culture is taking more responsibility for its health, and complementary/alternative medicine is booming, the

design professions are beginning to rediscover the possibilities of therapeutic garden design. Details on how hospital spaces work (or don't work) for *people* need to be examined. It is also important to understand the varying cultural attitudes countries have regarding medical care and the settings in which it is practiced. This will help to gain an understanding of the philosophy of therapeutic garden design and the value of nature in medical environments.

Cultural Attitudes

The way a culture views illness, cure, and healing drastically affects the environment in which its members practice medicine. According to Lynn Payer in *Healing Gardens*, in a comparative study of the selections of treatment in England, West Germany, France, and the United States, the difference in viewing and treating illnesses is remarkably diverse. This diversity has remained constant even though these countries are all of Western culture and have close ties with one another (Payer, 1996).

Payer states, "the cultural attitude toward medicine in Great Britain is characterized by caution and economy. A British patient is half as likely to have an X ray or surgery of any kind as an American, is prescribed fewer drugs than a French or German patient, and will have one-eighth the number of lab tests as the Canadian patient" (Payer, 1996). German doctors treat many complaints as poor circulation or deficiencies of the heart. This is a result of lingering Romantic influences and a cultural belief that the heart is not just a pump or mechanism (the American view), but an organ that has a life of its own and reacts to emotions and a variety of stimuli. "Still another legacy of Romanticism in German medicine is the healing powers accorded to nature, whether it be in the form of long walks in the forest, mud baths, or herbal medicine" (Payer, 1996).

The French have a cultural emphasis on aesthetics and sexual reproduction. According to Payer, the French “perform significantly fewer routine circumcisions, hysterectomies, and mastectomies than are done in the United States. French medicine pays great attention to the ‘terrain’ and constitution of the patient, hence, antibiotics are much less frequently prescribed than in the United States, where disease tends to be seen as the invader” (Payer, 1996). French patients are commonly prescribed rest and treatments at spas with homeopathy and aromatherapy. “While American doctors love to use the word ‘aggressive,’ the French much prefer ‘les medicines douces,’ or ‘gentle therapies’” (Payer, 1996).

On the other hand, American culture is rooted in the act of gaining a foothold on a new continent. This has led to a very aggressive attitude generally. American doctors perform more diagnostic tests than doctors in England, West Germany, and France. They perform surgery more often, and prescribe higher doses of drugs.

The once seemingly limitless lands gave rise to a spirit that anything was possible if only the natural environment, with its extremes of weather, poisonous flora and fauna, and the sometimes unfriendly Native Americans could be conquered. Disease also could be conquered, but only by aggressively ferreting it out diagnostically and just as aggressively treating it, preferably by taking something out rather than adding something to increase the resistance (Payer, 1996).

Payer opens our eyes to the “can-do” attitude of American culture. In the medical field, this attitude has aided in treating many curable diseases, as well as reducing heart attack and stroke rates, but has done little for chronic illness. Conditions marked by long duration are not treated well in the United States. Medical spas have advanced in other parts of the world and are considered successful treatments for chronic conditions, yet rarely do medical spas appear as treatment in the United States. Therapeutic benefits of

nature are not congruent with the American culture's demand for aggressive measures and efficiency in the treatment of disease. It is almost as if the American culture sees the body as an efficient machine occasionally in need of a checkup, like that of a car. "The subtle, positive effects of using nature as therapy and spending time in nature are not given much attention and seem dubiously 'unscientific' compared with a 'race for the cure'" (Marcus and Barnes, 1999).

During a time when the garden was basically lost in healthcare settings, there was one type of hospital in which the garden did not disappear completely: that which caters to long-term care of patients with chronic illnesses. Even though our culture has difficulty treating chronic illness, the unconscious need for the patient's connection to nature remains apparent. When most medical institutions of this country ignored the importance of gardens for therapeutic environments, the exceptions remained in these facilities. The profession of occupational therapy was established in the early decades of this century. It extended the practice of rehabilitation of patients with physical problems. After World War I, garden work entered the arena in rehabilitation hospitals. After World War II, horticultural therapy programs with special-purpose garden facilities began to be provided for veterans, the elderly, and the mentally ill in hospitals. With AIDS and cancer producing rising mortality rates, the hospice facility has become more familiar in U.S. cities. (Marcus and Barnes, 1999). The therapeutic effect of the garden has been recognized as a positive factor in all of these institutions.

Contemporary Views

There is a need for efficiency and a need for nature. There has been a struggle for therapeutic gardens in healthcare settings to become a national trend. Many experts agree

that there is a lack of critical data about gardens in healthcare facilities, specifically, what garden elements are appropriate for specific patient groups, i.e. psychiatric patients vs. children with cancer. There is also a need for designers to better understand an increasingly complex healthcare industry. A professor of landscape architecture at Michigan State University claims, “We don’t have an understanding of how medicine works on a day-to-day basis or how the doctors and other players bear on the treatment of the patient. And, as a rule, we don’t have a clue as to what the patient is experiencing, so we end up designing for ourselves on the assumption that what we respond to as healthy individuals will help a patient” (Thompson, 1998). This calls for a much broader dialogue between designers and public-health professionals. This dialogue would begin to educate designers in critical areas. In his article, *A Question of Healing*, J. William Thompson claims:

“The hospital garden is a centuries-old landscape form that seems to be experiencing a resurgence in the era of HMOs and managed healthcare. Will hard-nosed healthcare administrators increasingly find room in their budgets for such gardens? To a great extent the answer to this question depends on the quality of the dialogue between designers and healthcare professionals as well as on the availability of research data on the effectiveness of healing gardens. All present indications suggest a wealth of challenges in this burgeoning area of design” (Thompson, 1998).

Many questions exist regarding landscape architects and their role in healthcare design.

These questions can only be answered over time as landscape architects continue to gain credibility in this field. With further collaboration between landscape architects and healthcare professionals, a type of design can develop that will redefine the role of the garden in healthcare today. Roger Ulrich contends, “They [landscape architects] need to come up with a framework of benefits based on scientific research. Then they can have a better basis of getting their foot in the door with clients, and they can have a more

central role in the design of facilities, and not be brought in at the last minute as band-aids” (Dannenmaier, 1995). POEs and other studies that assess user responses to therapeutic gardens are one way to begin this framework.

At a Landscape Architecture Forum on Healing Gardens in New York in October of 1999, Clare Cooper Marcus asked: “How does the landscape architect understand how people might use a garden that does not yet exist? One way, she volunteered, is to visit and evaluate existing facilities, interview the staff, management, gardeners, even some of the resident physicians. ‘And there are a lot of books on therapeutic gardens,’ she added. ‘We don’t need to keep reinventing the wheel. We need to encourage the design professionals to use the literature, to read the research’” (Thompson, 2000). According to James Burnett, award-winning landscape architect who specializes in healthcare and designed the St. Michael Healthcare Center campus, in his essay in *Healthcare Design*, “As positive research and good examples continue to grow, decision makers are becoming more aware of the substantial benefits of having gardens in the hospital setting” (Marberry, 1997).

James Burnett further contributes his views in a May 2003 article in *Healthcare Design* magazine subtitled “The healing garden is not just another pretty picture: Design for the healthcare environment requires more.” Due to the increased interest in therapeutic garden design and the opportunities it has opened for landscape architects, Burnett advocates ‘mindful design’. “Mindful design is a collaborative process in which owners, users, medical planners, architects, interior designers, artists, and landscape architects work as equal partners in creating an environment that is supportive and restorative” (Burnett, 2003). Burnett proposes that entire healthcare campuses and even

entire communities should promote healing, as opposed to creating assigned, scaled spaces that dictate when healing begins and ends. Missed opportunities lie in driveways, parking, and buildings. On a broader scale, Burnett suggests incorporating courtyards, walking paths, and various elements that represent the healing expression of the whole institution to the community.

When marketing the healing garden on this large scale to the potential user, George Tingwald, MD, AIA, offers a positive perspective:

People assess ‘quality’ by processing subtle clues, things they can understand easily, that reflect more complex processes. In the case of healthcare, the public cannot ‘see’ the quality of the doctors, operating rooms, diagnostic procedures, or therapies. How they assess these qualities is by judging what they *do* see and know most strongly by visual first impressions. Showing an appreciation for living, breathing things and the ability to care for them and make them thrive is one of the most powerful, visceral ways of displaying quality of service. The comfort of knowing that you are in capable, caring hands is the ultimate stress reducer (Burnett, 2003).

According to Burnett, quality-based institutions and service industries, such as universities, museums, and resort hotels have known and practiced this concept for years. Does it not seem logical that this concept should be applied to healthcare? The exterior and interior of a healthcare facility should demonstrate this quality of service, i.e.: a healing parking lot, a healing arrival court, a healing waiting room, a healing cafeteria. Burnett’s concept of mindful design is missing from most healthcare campuses, and these are the facilities that should specifically have the thoughtful intention of creating well-designed environments for all spaces. As far as making these landscapes a fiscal priority, Burnett asks:

Does this concept of creating a mindful landscape design that is supportive and inclusive cost more? Are these spaces more difficult to maintain and operate? Is it problematic to have meaningful design dialogues between the design

professionals and users, including patients, families, healthcare providers, and owners? The answer to all of these questions is no. A thoughtful design process costs the same as one that operates in a vacuum and offers no innovation or important breakthroughs. It is not more difficult to maintain a carefully designed landscape environment, and the best projects are always ones in which the collaborators are treated as equal partners in the design process (Burnett, 2003).

Contemporary Action

A Therapeutic Garden Design Professional Interest Group exists within The American Society of Landscape Architects (ASLA). In a personal communication, Mark Epstein, co-chair of the Professional Interest Group, shared information that the group is considering starting a program that will establish an ASLA therapeutic design award category. Their mission is to “promote the concept of therapeutic gardens to administrators, healthcare professionals, and other key-decision makers who are influential in determining the creation of this alternative form of therapy, and to collect, compile and advance state-of-the-art information and research in the specialized practice areas of therapeutic garden design” (<http://host.asla.org/groups/tgdpigroup/index.cfm>).

Their goals are as follows:

- Recommend ways for the interests of the members of the professional interest group to be communicated through seminars, workshops, symposia, publications, etc.
- Advise ASLA, through the Vice President for Education and Professional Development, of changing needs in the specialized areas of therapeutic garden design.
- Increase the visibility of design professionals and healthcare professionals practicing in design and/or development of therapeutic gardens.
- Monitor and respond to legislation related to specific issue areas in order to positively effect legislation related to the design and development of therapeutic gardens.
- Promote and lend credibility to information generated by the members of the Professional Interest Group by providing a channel of communication for this specialized area.

- Develop/communicate state-of-the-art therapeutic garden practice, and distribute research/information relating to shared professional interests.
- Set standards for therapeutic gardens to assist practitioners and benefit users of these gardens.
- Distribute current information on therapeutic gardens to Professional Interest Group members and related associations and organizations.
- Develop an advisory board of knowledgeable professionals.

Membership is \$15.00 per year and one does not have to be an ASLA member to join.

(www.asla.org/Members/pegroups.cfm). The group publishes web-based newsletters and holds an annual forum each year at the ASLA national conference. The most recent newsletter was published in the spring of 2002. In addition to articles reporting the success of existing therapeutic gardens, the chairs of the Professional Interest Group published a letter to members asking their assistance in helping to spread the word to boost the acceptance of known therapeutic activity. They are searching for ways to get the messages of benefits and financial efficiencies to clients and to the people with the vision and authority to build new therapeutic gardens. Professional Interest Group members and chairs are well aware of the interest to quantify the benefits of therapeutic gardens “in order to make the case that they are financially advantageous for an organization” (Carman and Epstein, 2002).

A huge achievement in legitimizing the value of therapeutic gardens in healthcare settings occurred in July 2001, when the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) spent two and one-half weeks surveying Legacy Health System (LHS) in Portland, Oregon. JCAHO noted Legacy’s therapeutic gardens in the exit interview as one of LHS’s special achievements, “demonstrating their commitment to the psychosocial well-being of their patients through such aspects of care as the patient gardens” (Epstein, 2002). According to Mark Epstein, July 2001 was “the

first time JCAHO has recognized therapeutic gardens as exemplary, and as a best practice benchmark for healthcare organizations. It is an important step in linking therapeutic gardens with positive patient outcomes in healthcare settings. We can, and should, use the Legacy experience as evidence that therapeutic gardens benefit healthcare organizations by helping establish positive outcomes for their patients, an important consideration in the organization maintaining accreditation” (Epstein, 2002). This is a leap in the dialogue that needs to occur between landscape architects and healthcare professionals. Though there have been other notable achievements within this field, it is unclear why the therapeutic garden Professional Interest Group has not published a newsletter in two years.

Anne Wiesen and Nancy Gerlach-Spriggs are Executive Co-Directors of Meristem, Inc., a nonprofit organization promoting the role of nature in health and well-being through the development of restorative gardens. When discussing the idea that the therapeutic garden is a collaboration of professions, the two women emphasize that the term “ therapeutic” implies an assessment and an understanding of a medical condition, with its usual course and prognosis. Therefore, the term “therapeutic garden” implies “an intent to improve the medical environment, not simply in the designer’s view or preference, but to improve it in pursuit of the medical endeavor and in the treatment of a medical condition” (Gerlach-Spriggs and Wiesen, 2002). One could interpret this to mean that the therapeutic garden is a medical concern. Landscape architects are entering the realm of professional healthcare and assisting the medical profession, assuming this group’s standards as well as their own. With this in mind, “just as one can ask if the medication has relieved the pain or cured the infection, one should be able to ask if

walking in the garden has improved strength, balance, or mood or if group activities in the garden have helped decrease social isolation” (Gerlach-Spriggs and Wiesen, 2002). With further clinical research and data, this will one day be the case. It will require the monitoring of physiological changes as an indicator of emotional change, allowing for design professionals and healthcare professionals to speak the same language. Successful therapeutic gardens will require that designers work closely with healthcare professionals to set goals and standards. Wiesen and Gerlach-Spriggs envision that ultimately, the success or failure of the design profession’s contribution in healthcare settings will evolve from being evaluated by POEs to being evaluated by clinical data.

Much work has been done to realize the factors necessary to create successful therapeutic spaces in healthcare settings, but there is much harder work ahead. The universal dialogue and collaborative process is still evolving and must continue to grow in order to reach its full potential. Once established, medical and landscape architecture practitioners can work together towards the goal of serving the public and collaborate in developing a new and sustainable healthcare system.

Relevant Research

The understanding that gardens play a role in the healing process has gained endorsement over the past decade. Many experts and design researchers have published articles in various journals, as well as written books on the subject. Professional associations such as the Center for Health Design, the American Horticultural Therapy Association, and the recently formed Society for the Arts in Healthcare now offer publications and annual conferences for the therapeutic designer. The following is a

summary of notable research that supports the design of therapeutic gardens in healthcare settings.

One theory that expresses the power of the human connection to nature is that of Dr. Edward O. Wilson, an evolutionary biologist who is author of *Biophilia*. In *Biophilia*, which means “affinity for nature,” the Harvard science professor and two-time Pulitzer Prize winner suggests that modern humans innately respond to natural content and configurations that characterize environments favorable to premodern humans. “The living world is the matrix in which the human mind originated and is permanently rooted” (Wilson, 1984). Other researchers, following Dr. Wilson’s lead, have contributed further studies that advance this case. *The Biophilia Hypothesis*, edited by Dr. E.O. Wilson and Stephen Kellert, suggests that “humanity is intimately linked with nature on an evolutionary level, and that our well being as humans is dependent on our continued connection and relationship with the environment from which we as organisms sprang” (Wilson, 1995). Innately, humans choose nature as a restorative experience. In *The Experience of Landscape* (1975), author Jay Appleton puts forth the evolutionary theory in his book. Appleton suggests that humans respond to landscapes today in the same way they would have long ago. Humans chose “selected habitats” for their safety and their ability to provide food and water. These habitats were favorable to their well-being and survival. This supports humans’ primal need for nature as comfort, safety, and restoration.

Rachel and Stephen Kaplan are professors of psychology and natural resources, respectively, at the University of Michigan. They have been researching the psychology of humanity’s connection with nature for over twenty years. Together they have

determined that people who garden receive significant psychological benefits. Stephen Kaplan states: “The concept of the restorative experience is based on the idea that mental effort, coping with hassles, and the everyday demands of living in the modern world all tend to fatigue one’s capacity to direct one’s attention. Since such fatigue makes one less competent, less pleasant, and less happy, recovering from it is a matter of some importance. A restorative environment is an environment that fosters this recovery” (Kaplan and Kaplan, 1990). This statement also supports the Kaplans’ advocacy of the arousal and overload theory: that present day built environments demand us to remain in forced attention, thus taxing our senses. In their book, *The Experience of Nature: A Psychological Perspective* (1989), they suggest that exposure to nature is the restorative experience needed to recover from this sensory overload. “Given the potential damage created by the hassles and pressures of everyday life, both large and small, the restorative experience has the potential of playing a vital healing role” (Kaplan and Kaplan, 1990). The Kaplans’ contributions to the theoretical underpinnings of therapeutic garden design include, but are not limited to, the psychological benefits of gardening (Kaplan, R., 1973), the restorative and healing power of nature (Kaplan and Kaplan, 1990), and the experience of nature (Kaplan and Kaplan, 1996).

Many studies are reestablishing the connection between therapy and landscape, an affinity that landscape architects have held as intuitive since Olmsted. The work of behavioral scientist, Roger Ulrich is of well-known influence. Ulrich is Professor in the Departments of Landscape Architecture and Architecture at Texas A&M University. He also serves as Director of the Center for Health Systems and Design, an interdisciplinary center sponsored jointly by the Colleges of Architecture and Medicine. His work has

influenced the site planning and landscape design of scores of major hospitals internationally. Although not a landscape architect, Ulrich has been coined a “biophilic” and presents his research to students of landscape architecture in his role as professor.

One of the most pertinent contributions to the research of therapeutic gardens is Ulrich’s 1984 study: “View Through a Window May Influence Recovery from Surgery.” This landmark study examined two groups of hospital patients recovering from the same abdominal surgery. The group that recuperated in rooms with a view of nature from their hospital window had shorter post-operative hospital stays, received fewer negative evaluations in nurses’ notes, and required fewer painkillers than the group placed in similar rooms with only a view of a brick wall from their hospital window. Ulrich has published further studies including stress recovery during exposure to natural and urban environments (Ulrich, 1991), and how design impacts wellness (Ulrich, 1992). In a 1995 article in *Landscape Architecture*, Ulrich emphasizes, “providing passive visual views is only one approach. You can go a lot farther than that” (Dannenmaier, 1995). He adds that designers should not be too literal in their attempts to apply research, but they should seek a path he calls: “‘supportive design’ that provides patients with a sense of control over their environments, places to interact with friends and family for social support and the ‘positive distraction’ of stress-reducing contacts with nature” (Dannenmaier, 1995).

In the book *Healing Gardens*, coauthored by Clare Cooper Marcus and Marni Barnes, Roger Ulrich presents an essay that expands on his *theory of supportive garden design*. Ulrich derives his theory from scientific-experimental methods. The methods are, at this point, the most sound and persuasive evidence considered by medical researchers and healthcare administrators today. Ulrich takes scientific studies and environmental

findings and transforms them into a language suitable and appropriate for healthcare settings. Ulrich gives bibliographical information from H.R. Rubin and A.J. Owens that provides a survey of scientific studies published by The Center for Health Design in 1996. This report proves that environmental design can reduce patient anxiety, lower blood pressure, lessen pain, and may shorten length of hospital stay (Cooper Marcus and Barnes, 1999). A recent report by Johns Hopkins medical researchers identifies seventy plus published scientific-experimental studies regarding the effects of healthcare design on medical outcomes. According to the authors of the report, “this amount of scientific research is small by the standards of medical fields, but there is now enough quality research to justify the conclusion that ‘there is suggestive evidence that aspects of the designed environment exert significant effects on clinical outcomes for patients’” (Cooper Marcus and Barnes, 1999). Simply put: the designed environment affects health outcomes.

Taking this research derived from empirical evidence and combining it with semi-scientific methods such as POEs, Ulrich developed his theory of supportive garden design. In this theory, the main emphasis is given to effects of passive experiences with gardens on stress reduction and other medical outcomes. Ulrich claims that in healthcare settings, the element of focus should be to foster a patient’s ability to cope with stress and to promote restoration from stress. In doing this, gardens can improve various health outcomes. Outcome studies can then be used to evaluate particular treatments, i.e. gardens. Ulrich provides a research-grounded theory for understanding how garden characteristics affect patients and staff.

In a therapeutic garden, the benefits must be experienced by a majority of the users. Whether or not a garden is deemed “good” in professional design journals or organizations does not necessarily mean that it is worthy of praise. The same environment can be found to produce negative reactions, and will qualify as a failed design in healthcare terms. Ulrich claims that “these points imply that use of the term ‘healing’ in the context of healthcare gardens ethically obligates the garden designer to subordinate or align his or her personal tastes to the paramount objective of creating a user-centered, supportive environment” (Cooper Marcus and Barnes, 1999).

In the 1995 publication *Gardens in Healthcare Facilities: Uses, therapeutic Benefits, and Design Recommendations*, Clare Cooper Marcus and Marni Barnes realized “the importance of stress as a problem in medical contexts implies considerable significance for the finding that restoration from stress appears to be the major benefit motivating persons to use gardens in healthcare facilities” (Cooper Marcus and Barnes, 1995). Ulrich points out that stress is one of the central concepts in understanding a relationship between one’s physical well being and surroundings. In a study titled “Psychological Stress and Susceptibility to the Common Cold” published in the *New England Journal of Medicine*, it is reported that stress, a significant outcome in itself, directly affects many other health outcomes (Cohen et al., 1991). Health outcomes are indicators or measures of a patient’s condition or progress. Ulrich contends, “outcomes research potentially can indicate the degree to which gardens in healthcare facilities are medically beneficial and cost-effective relative to such alternatives as not having gardens” (Cooper Marcus and Barnes, 1999).

In summation, Ulrich contends that gardens in healthcare facilities will improve health outcomes to the extent that they are effective in fostering restoration and coping with the stress that accompanies hospitalization. Based on this “concept of stress,” Ulrich has developed a scientifically grounded theory of supportive garden design. This theory embraces the impacts of environmental features and design approaches that are directly and credibly linked to effects on health outcomes. It is defined by the following:

It is justified to propose that gardens in healthcare situations are important stress mitigating resources for patients and staff to the extent that they foster:

- Sense of control and access to privacy
- Social support
- Physical movement and exercise
- Access to nature and other positive distractions

These four supportive design strategies or characteristics can be attained through various means such as way-finding and signage to the garden; accessibility; nodes for privacy; seating for social interaction; opportunities for physical exercise; and interaction with nature. If designed accordingly, gardens can improve health outcomes.

Rationale

Together, the work of Dr. Wilson, the Kaplans, Clare Cooper Marcus, Marni Barnes, and Roger Ulrich supplies a body of relevant research suggesting that exposure to natural settings may lessen stress and promote healing, therefore improving health outcomes. Given this knowledge, the goals of this POE are: to evaluate patient, staff, and visitor utilization and perceptions of the therapeutically designed St. Michael Health Care Center campus; to determine whether the campus reduces stress and fosters restoration; and to determine any barriers or constraints to use. Recommendations for improvement will also be given. All will provide insight into how to use therapeutic gardens to

facilitate the healing process. This POE will further add to the critical body of knowledge that is the departure point for more documented and empirical research necessary to enable appropriate and specific design recommendations for contemporary therapeutic garden designs.

In addition, information obtained from a POE conducted in 2001 of a family healing garden states “there is some evidence that the healing environment may influence patient and family perceptions of their healthcare provider, as measured by healthcare satisfaction, quality assessments, intentions to return, and willingness to recommend a healthcare provider to others” (Whitehouse, Varni, Seid, Cooper Marcus, Ensberg, Jacobs, and Mehlenbeck, 2001). Due to time constraints, this type of consumer satisfaction input will not be included in this POE, but is a notable subject for the continuation of this research.

This literature review discussed historical information, cultural attitudes, contemporary views, contemporary action, and relevant research pertaining to contemporary therapeutic garden design. All of the collected information will be utilized in evaluating and assessing the effects of the St. Michael Health Care Center campus on its users. Chapter III will outline the methods used for the visual analysis, behavioral observation, and interviews conducted on the campus.

CHAPTER III: METHODS

The following portion of this thesis is an assessment of the uses, advantages, and limitations of a therapeutically designed hospital campus. It is conducted through the use of a post-occupancy evaluation (POE), which is ultimately a tool aimed at improving the built environment. The basis of this method is adopted from and follows an example of a report published in 1995 by Clare Cooper Marcus and Marni Barnes through The Center for Health Design, Inc. This chapter outlines the methods used to measure everyday user perceptions of the campus at The St. Michael Health Center in Texarkana, Texas.

Background and Validity of POE

According to the 2002 edition of the *Handbook of Environmental Psychology*, POE grew out of the convergence of interests among social scientists, designers, and planners in the 1960s and 1970s. They were interested in understanding “the experience of building users and in representing the ‘non-paying’ client” (Zimring, 2002). The *Handbook of Environmental Psychology* defines POE as “the systematic assessment of the process of delivering buildings *or* other designed settings or of the performance of those settings as they are actually used, or both, as compared to a set of implicit or explicit standards, with the intention of improving the process or settings” (Zimring, 2002). More importantly, POEs primarily focus on “assessing user satisfaction, user assessment of building comfort and functionality, and user behavior using self-report methods such as questionnaires and interviews and direct observation of user behavior” (Zimring, 2002).

Although not often described through a landscape architectural perspective, POEs are a very relevant tool to the practice of landscape architecture. Whether it is a small

residential project or a large commercial or public works project, landscape architects create built environments and gathering places for clients and the public. The principles and processes of POE are transferable and highly applicable to the profession. Landscape architects often work with multidisciplinary design teams, where a POE of a project may include building structures and landscaping within a single evaluation.

Because continuous quality improvement is a fundamental concept to all service related industries, the POE is essential to the professional practice of landscape architecture for various reasons: it is a maintenance and sustainability check of a plan; it is a process that promotes innovation, learning, and development; it is linked to quality and cost management during the design phase; it can improve client and public safety; and it serves as personal, reflective learning through criticism.

In a personal communication, I asked Jack Carman, ASLA, Co-Chair of the ASLA Therapeutic Garden Design Professional Interest Group, to share his perspectives on the POE as a tool in the profession:

Discuss the POE as a tool and why it is important for the profession of Landscape Architecture: Yes, definitely. It is important and not often used. I, myself, do not do 'formal' surveys. I do spend time in gardens I have created and observe. I talk to staff as much as possible. I try to remain in contact with the various communities.

Discuss your opinion of the true value of a POE and its benefits: It is essential for improving future designs. How else can we evaluate what has been created and how it is being used. Is the garden being utilized to its full potential? We can learn from our own work and the work of others.

Discuss the POE method and has anyone questioned it: Have you checked out the work by Clare Cooper Marcus. The one publication that comes to mind is "People Places" by Marcus and Francis.

Discuss graphic standards of the POE: Not sure of the response. Do you mean how to draw/illustrate the areas studied?

This type of discussion is a start in determining how the POE is currently being used in the context of landscape architecture.

To generalize, further information mentioned in the *Handbook of Environmental Psychology* states “Robert Bechtel has estimated that over 50,000 POEs have been completed; and a recent Web search on *Google* turned up over 2,700 sites that mention ‘postoccupancy evaluation’ by name” (Zimring, 2002). Robert Bechtel is an expert in the field of environment and behavior and has written prolifically on the use of POEs.

Last to note are the words of James Burnett, the designer of the St. Michael campus. In this excerpt from a 2003 article in *Healthcare Design*, Burnett’s words highlight the necessity for insight into clients’ needs and aspirations:

World-renowned architect Louis I. Kahn believed that buildings and landscapes were designed to *honor* those who inhabited them. He saw the activities of his clients as incredibly important, and therefore he spent an immense amount of time getting inside the heads of those people. In the end, he always met the needs of his clients and gave them something they never dreamed they could have. By spending hundreds of hours getting to know how they lived and worked, he was able to challenge tradition and bring innovation to the process. At the Salk Institute near San Diego, for example, Kahn broke from tradition and created a living laboratory that offered the greatest flexibility of function, while creating a humane, day-lit environment for the scientists who worked there (Burnett, 2003).

Methodology

Because this POE is striving to understand the people-place transactions that are occurring in an exterior hospital environment, a multi-method approach must be employed in order to collect data. This approach is a strategy of data collection that incorporates visual analysis of the physical site, behavioral observation, and information gathering through tape-recorded interviews and interviews using a survey questionnaire.

Scope

This POE is limited to the perceptions of the users of the St. Michael Health Center campus. The study includes patients, staff, and visitors of St. Michael, both male and female.

Site Visits

On July 14, 2004, I conducted an initial site visit and met Wade Harris of administration at the rehabilitation hospital. I took a tour of the entire St. Michael campus and met Francine Francis, Director of Communications, and Kristi Rountree, Daytime Occupational Therapist. I completed a follow-up site visit on September 2-5, 2004. During the follow-up visit I conducted the site analysis, observations, and interviews. Weather conditions were generally sunny with some rain the third day. It was comfortable outside, with temperatures ranging from 75-85 degrees. I collected data over a three-day period: two weekdays and one weekend day. This consisted of eleven hours scattered between 9:30 am and 3:00 pm as follows: three hours at the rehabilitation hospital; three hours at the main entrance including the pond and nature trail; two hours in the dining court; two hours at the north entrance including the play area; one-half hour at the Garden of Balance; and one-half hour at the Shirley Burnett Peace Garden.

Visual Analysis

The visual analysis of the site incorporated mapping: (1) the physical design features; (2) orientation and circulation; (3) views into and out of the garden; (4) opportunities for social interaction; (5) opportunities for privacy; and (6) aesthetic and spatial elements. I used three illustrative maps of the hospital campus to document the physical site elements, courtesy of James Burnett in *Healing Gardens: Therapeutic Benefits and Design Recommendation.*,

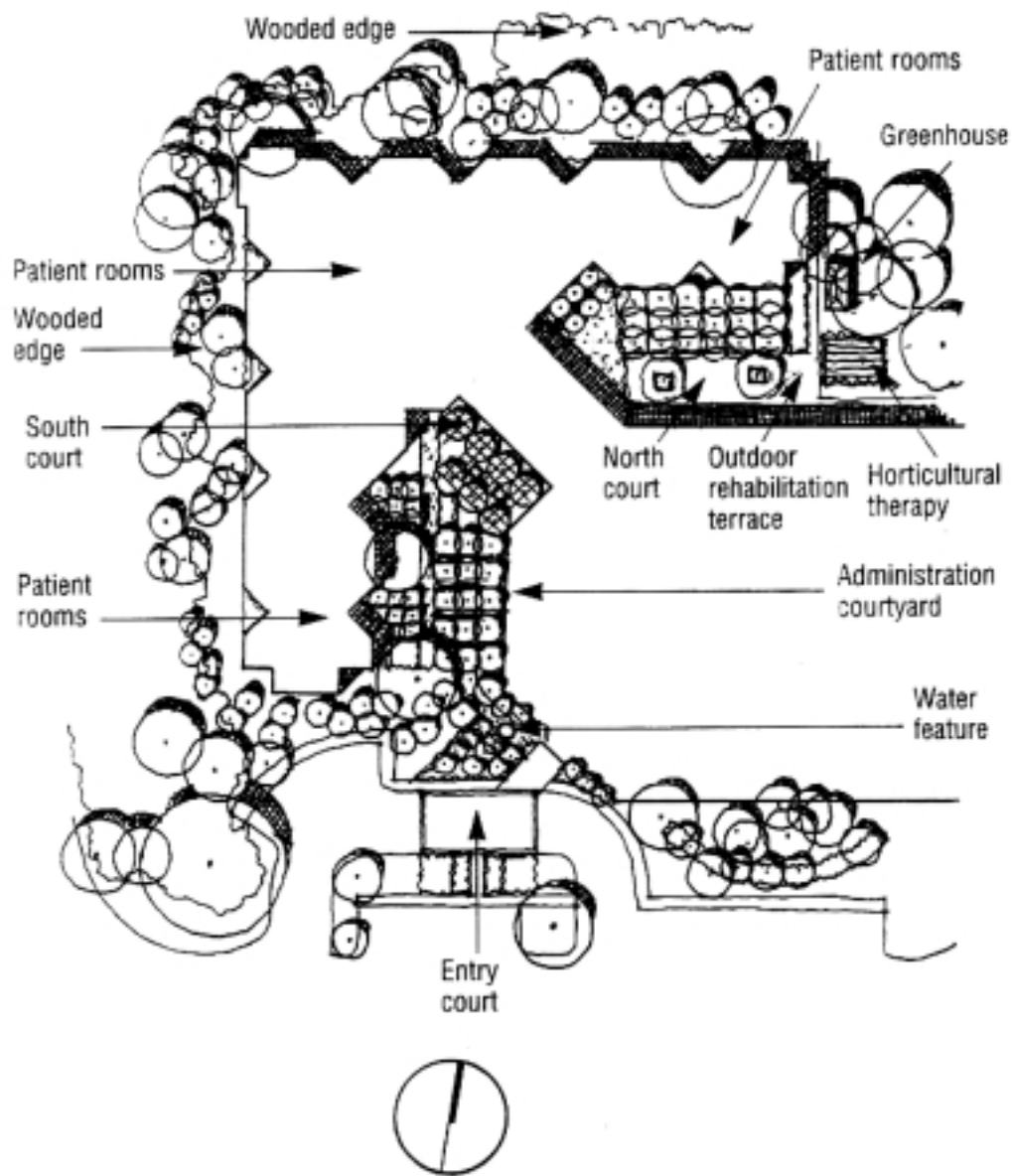


Figure 3.1
 Rehabilitation Hospital
 Layout
 Map Courtesy of James Burnett

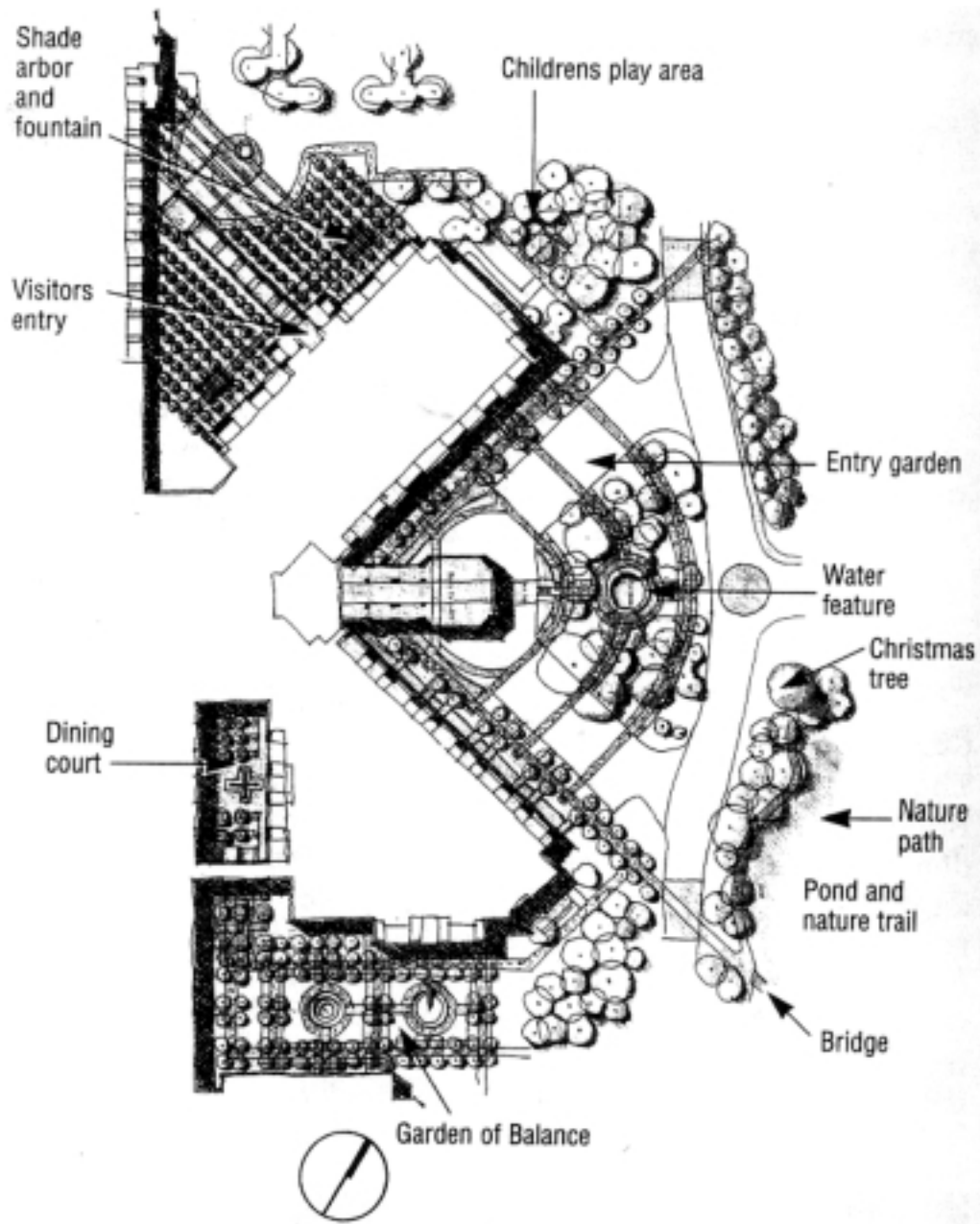


Figure 3.2
Main Hospital
Layout
Map Courtesy of James Burnett

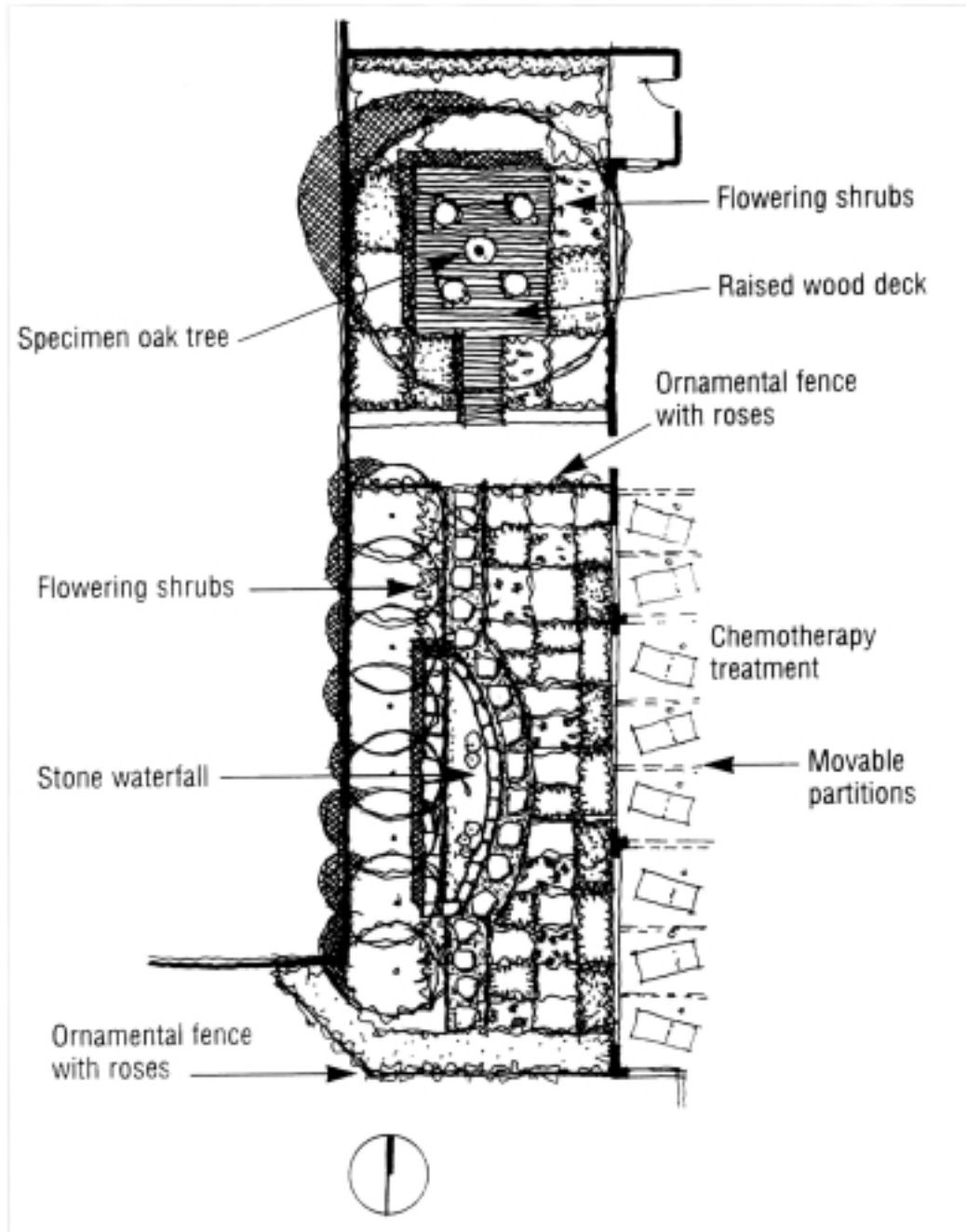


Figure 3.3
Shirley Burnett Peace Garden
Layout
Map Courtesy of James Burnett

The first map, shown in Figure 3.1, includes the rehabilitation hospital with its entry court and outdoor therapy area. The second map, shown in Figure 3.2, includes the north

and east sides of the main hospital and displays the visitors' entry with shade arbor and fountain, the children's play area, the main entry garden with water feature, the pond and nature trail with bridge, the Garden of Balance, and the dining court. The third map, shown in Figure 3.3, illustrates the Shirley Burnett Peace Garden with the raised wooden deck across from it. All results of visual analysis are presented in Chapter V.

Behavioral Observation

The behavioral observation concentrated on who actually uses the space and why they use it. The data collected in this category revealed patterns of use analyzed to understand: (1) traffic flow; (2) user activities; (3) gender and age distributions of users; and (4) user type (patient, staff, and visitor). I documented traffic flow on the illustrative maps previously mentioned. I observed user activities, gender and age distributions of users, and user type and included them on the survey questionnaire.

During the eleven hours, I observed a total of three hundred forty-nine users. I split observations into two categories: users passing through and stationary users. I recorded two hundred eighty-two users passing through: thirty at the rehabilitation hospital; seventy-two at the main entrance, zero at the dining court, one hundred seventy at the north entrance, zero at the play area, zero at the Garden of Balance, ten at the pond and nature trail, and zero at the Shirley Burnett Peace Garden. I recorded sixty-seven stationary users: fourteen at the rehabilitation hospital; eleven at the main entrance, sixteen at the dining court, eighteen at the north entrance, five at the play area, zero at the Garden of Balance, three at the pond and nature trail, and zero at the Shirley Burnett Peace Garden. Results of observations are presented in Chapter V.

Interviews

Through interviews I gathered information to explore (1) what people liked about the space; (2) which qualities and characteristics contributed to a sense of well being; (3) impediments to use of the campus and gardens; and (4) recommended improvements to the campus.

All interviews were conducted by the author. Interviews consisted of a sit-down session during which interviewees signed a consent form (See Appendix A for complete consent form), and completed a survey questionnaire (See Appendix B for complete survey questionnaire). The survey questionnaires contained twelve questions and took approximately twenty minutes. Due to the length of the interview, I approached only stationary users. I distributed questionnaires to twenty-seven people: twenty females and seven males. Thirteen of the twenty-seven were staff of St. Michael, nine of the twenty-seven were visitors to the campus, three of the twenty-seven were outpatients, and two of the twenty-seven were inpatients. Participation in the survey questionnaire was voluntary and anonymous, aside from stating gender and signing a consent form in which subject identity remains confidential.

I conducted two tape recorded interviews and later transcribed these. The interviewees were Sandra Griffith, Manager of the Cancer Center, and Kristi Rountree, Daytime Occupational Therapist at the rehabilitation hospital. The interview included questions such as, “What type of therapist are you?” “Do you ever use nature as part of your therapy?, In what ways?” and “Can you discuss the importance of the human connection to nature in terms of healing?” These interviews focused on finding out specifically how the staff understands the function of the campus and how they

incorporate it into the operational programs (See Appendix C for transcribed tape recorded interviews). Results of all interviews are discussed in Chapter V.

Analysis of Data

This thesis employs a primarily qualitative analysis of user perceptions of the therapeutic qualities of the St. Michael campus. I quantified some data to substantiate my interpretations of open-ended questions. I documented visual analysis through physical mapping and narrative discussion. I tabulated behavioral observation data for each area of study. I analyzed the open-ended interview questions for content clusters, i.e., in analyzing the responses to people's favorite thing about the campus, I scanned the range of answers and categorized them accordingly. When I analyzed the results to the change of mood question, I grouped emotional responses into (1) those that indicated a rise in energy level (felt rejuvenated), and (2) those that indicated a drop in energy level (felt relaxed, calmer). In order to incorporate the range of emotions recorded for this question, I created four additional categories: (3) those that felt inspired and more positive; (4) those that felt an escape; (5) those that indicated a spiritual emotion; and (6) those that felt no differences. Other more open-ended questions allowed for a number of responses. I discussed these in terms of the number of respondents and the number of responses. I provide descriptive results of observations, interviews, and personal interpretations in a summary format. All results and implications of this analysis are discussed in Chapter V.

CHAPTER IV: STUDY SITE

The study site for this thesis is the St. Michael Health Center campus. Surrounded by 68 acres of oak, pine, and dogwood trees, St. Michael is located along Interstate 30 in Northeast Texas. I selected this site to provide the service of a POE to those involved in the design and use of healthcare facilities. This includes owners, users, medical planners, architects, interior designers, artists, and landscape architects. This research will add to the ever-widening body of literature known as contemporary therapeutic garden design.

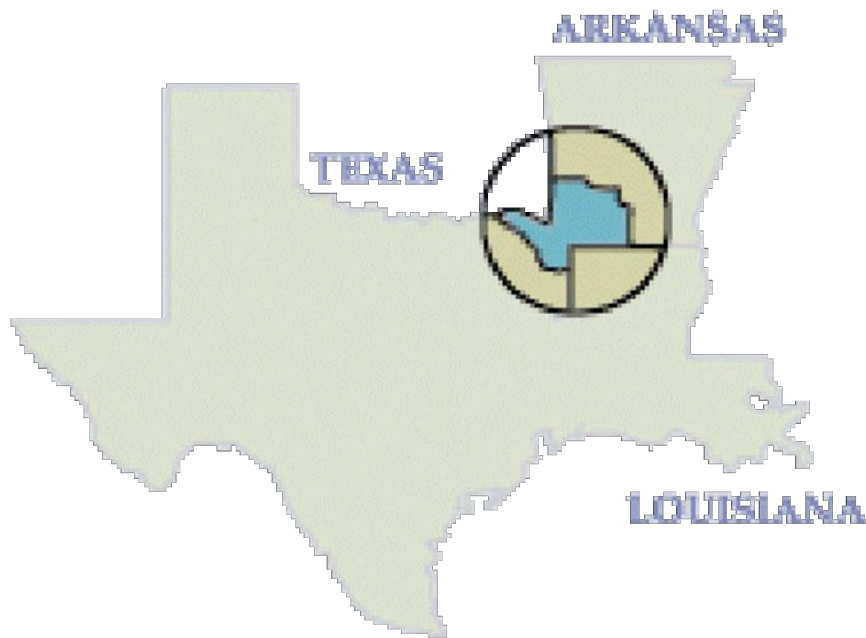


Figure 4.1
Texas-Arkansas-Louisiana Conjunction

Location

Texarkana combines the words Texas, Arkansas, and Louisiana due to its positioning shown in Figure 4.1. Its central location, as seen in Figure 4.2, allows the St.

Michael Health Care Center to serve residents of Arkansas, Texas, Louisiana, and Oklahoma. The St. Michael campus is located at 2600 St. Michael Drive in Texarkana,



Figure 4.2
Texarkana Vicinity Map

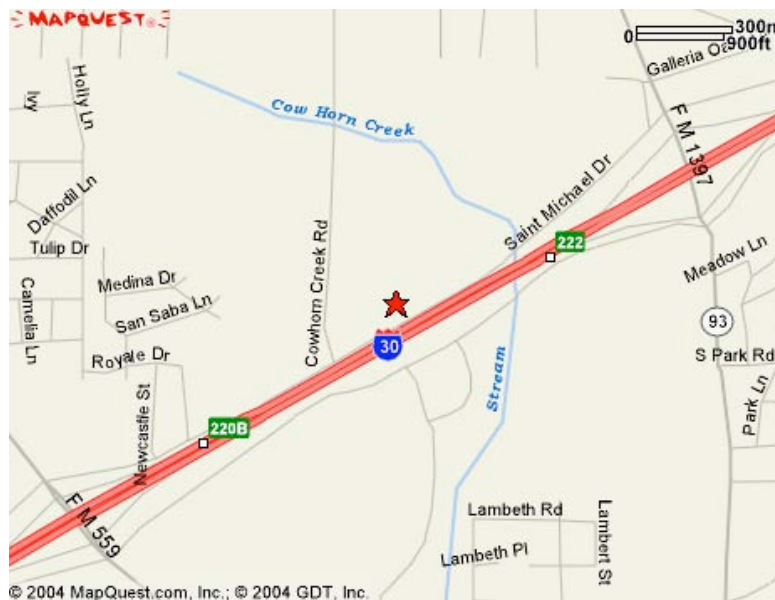


Figure 4.3
St. Michael Health Care Center Vicinity Map

Texas, a few blocks northwest of the I-30 and Summerhill Road Intersection, shown in Figure 4.3.

Scope

The St. Michael Health Care Center campus combines a two hundred thirty-nine bed acute care hospital, an eighty-bed rehabilitation hospital, an outpatient rehabilitation center, a fitness center, and a professional office building. Established in 1916 by the Sisters of Charity of the Incarnate Word, it offers a full scope of expansive diagnostic, therapeutic, surgical, wellness, and twenty-four hour per day emergency services ranging from the women's and children's arena to complete cancer services. In February 1993, the St. Michael Outpatient Rehabilitation and Health and Fitness Center opened. In February 1994, the St. Michael Rehabilitation Hospital opened.

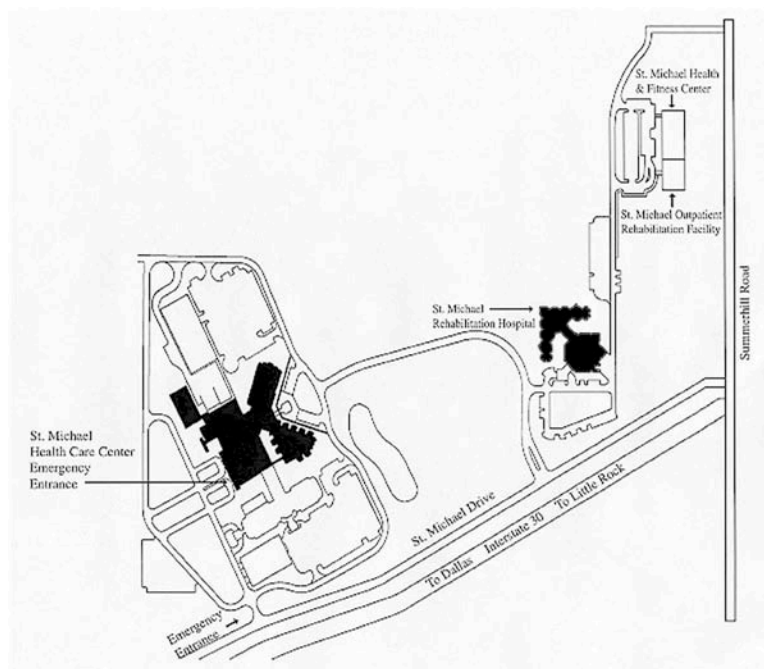


Figure 4.4
St. Michael Site Map

In August 1994 the St. Michael Family Clinic opened, and in December 1994, the entire St. Michael Health Care Center campus, as seen in Figure 4.4, was completed and opened.

Part of St. Michael's mission is "to show respect for the human person at every stage of life, especially in sickness, suffering and death. It is in these moments we strive to offer hope, healing, justice, and peace" (www.christusstmichael.org). This philosophy is apparent in the design of St. Michael, master-planned by Jim Burnett in collaboration with architect W. Kirk Hamilton. Burnett views the one hundred forty-million dollar campus "as a crusade to set a different standard. Their plan reflects two missions: Create compassionate settings for healing as well as dignified places to die" (Leccese, 1995).

History

The Sisters of Charity of the Incarnate Word is a noncloistered nursing order founded by Saint Vincent de Paul in 1633 in rural France. This order offered shelter and nursing home care for impoverished women in Paris and later staffed the modernized military hospitals of France. In 1916, the Sisters of Charity established the Michael Meagher Memorial Hospital in Texarkana, Arkansas. It was named after a civil engineer who left his estate to build a health care facility to serve all who needed care. In 1948, a new facility was completed and renamed St. Michael Hospital. Expansions and renovations were completed in 1956, 1975, 1978, and 1985. In 1994, St. Michael moved to a 52-acre campus just across the border in Texas. Every patient now has a view through floor to ceiling windows, shown in Figure 4.5, and can look out upon different vistas, as opposed to asphalt roofs on an urban street in Texarkana, Arkansas.



Figure 4.5
Floor to Ceiling Windows

General Site Description

The St. Michael campus encompasses a 695,000 square foot acute care hospital with attached professional offices, an eighty-bed rehab hospital, an outpatient rehab hospital and a fitness center. It is surrounded by commercial use on the west, north, and east sides, and Interstate 30 to the south. When entering the campus, the car dealerships, franchise restaurants, and strip malls virtually disappear. The hospital buildings are cradled within a forested woodland that buffers the exterior world and provides a strong sense of insular community. Figure 4.6 shows a parking lot with the order of the woodland in the background.

Once onto St. Michael Drive, the Rehabilitation Hospital is on the right. Visitors are greeted with an entry court that contains a small water fountain. In Figure 4.7, note the fountain edged with low, black curbing that allows patients in wheelchairs to actually touch the water. On the west and north sides, patients have a view of native trees overlooking a forest of pine, oaks, redbud, dogwood, and sweetgums. Another view is a

north courtyard used for outdoor therapy with seasonal plantings including spiraea, azalea, crape myrtle and pear trees.



Figure 4.6
Woodland Order



Figure 4.7
Rehab Entry Court

Further along St. Michael Drive is the acute care hospital with a grand entry. The entry is a circular grove of sixty-foot pine and oak trees including a fountain and walking paths. As seen in Figure 4.8, this feature aids in scaling down the six-story hospital behind it.



Figure 4.8
Front Entry

The dining court of the main hospital is centrally located adjacent to the dining hall. It is furnished with movable teak furniture, shown in Figure 4.9, and serves as a large gathering area with tables in the shade and sun. A large donor wall sits in the middle and doubles as a fountain, as seen in Figure 4.10.

The north entrance of the main hospital is also termed the visitors' entrance. There is a designed drop-off area with a fountain, as seen in Figure 4.11. Outside of the doors to the building exists a shade arbor and fountain, shown in Figure 4.12. Interesting to note in Figure 4.13, the north entrance lawn possesses the influence of Peter Walker. This area of the campus is not as naturalistic and familiar as the rest of the setting. Although inviting, I personally feel it is a little dramatic and different and seems out of

place. Around the corner from the visitors' entrance is a children's play area with playground equipment and a symbolic bronze sculpture, visible in Figure 4.14.



Figure 4.9
Movable Furniture



Figure 4.10
Donor Wall



Figure 4.11
North Drop Off



Figure 4.12
Shade Arbor and Fountain



Figure 4.13
North Lawn



Figure 4.14
Play Area and Sculpture

On the south side of the main hospital between the Medical Office Buildings and the Medical Surgical Bed Tower lies the Garden of Balance. This is a large garden area composed of a raised earth feature, shown in Figure 4.15, and a lowered amphitheater, shown in Figure 4.16. The juxtaposition of these centerpieces is meant to represent the balance for which patients are striving.



Figure 4.15
Raised Earth



Figure 4.16
Lowered Earth



Figure 4.17
Granite Gravel Path

Located at the east open end of the Garden of Balance is the pond and nature trail. The two-acre pond supports fish and wildlife while doubling as an irrigation reservoir.



Figure 4.18
Bridge and Gazebo

As seen in Figure 4.17, a perimeter walking path of granite gravel surrounds the pond edge. A cross bridge and covered pavilion are located near the midpoint of the pond and shown in Figure 4.18.

Last presented is the St. Michael Cancer Treatment Center-Shirley Burnett Peace Garden, shown in Figure 4.19. This is a passive viewing garden provided for patients undergoing chemotherapy. The garden provides seasonally changing views, a pond that is home to lilies and koi, and a series of bird feeders.

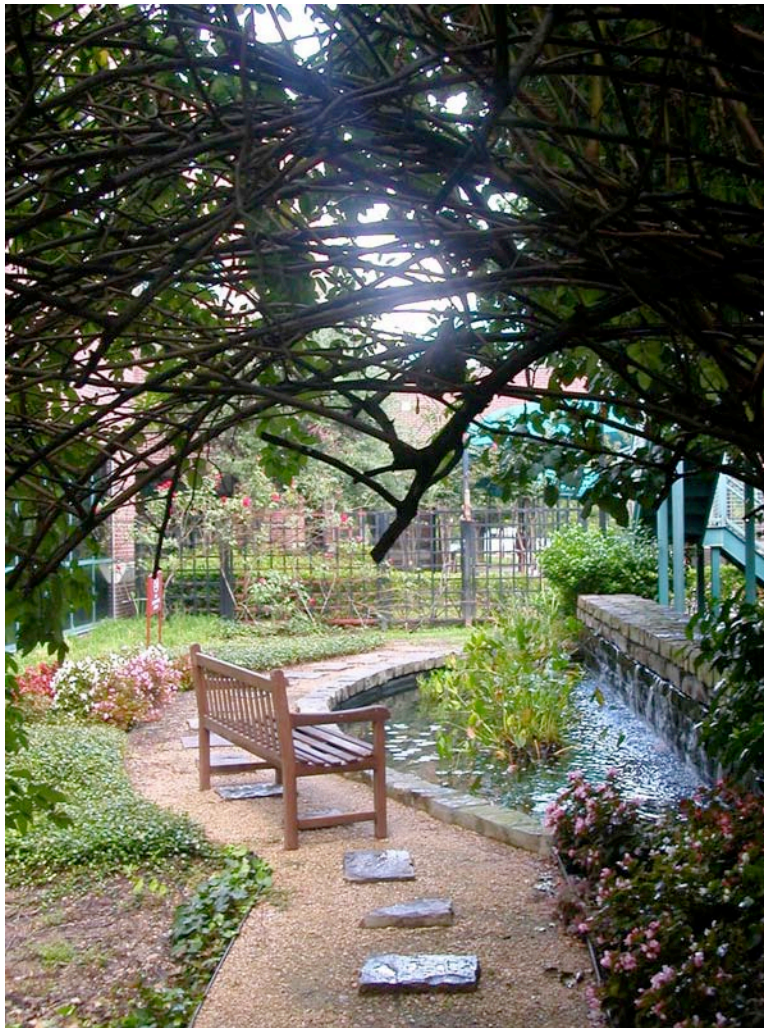


Figure 4.19
Shirley Burnett Peace Garden

Design Development and Discussion

The project credits of the St. Michael Health Care Center are as follows:

- The Office of James Burnett, Houston, Texas, with James Burnett, ASLA, principal in charge, Taffie Behringer, project landscape architect, Rita Hodge, project administration.
- Watkins Carter Hamilton, Bellaire, Texas with D. Kirk Hamilton, FAIA.
- Brown and Gray Engineers, Houston, Texas, with Harry E. Beckwith, P.E.
- Irrigation by Ellis E. Glueck, Houston, Texas.
- Landscape Construction, Inc., Houston, Texas.
- Client: St. Michael Hospital, Texarkana, Arkansas, with Thomas G. Byrne, administrator.

The cost of the project was \$1.6 million for the acute care hospital and \$200,000 for the rehabilitation hospital.

According to literature, the St. Michael campus design team triggered the concept of a therapeutic landscape when they presented the research of Roger Ulrich, previously mentioned in the Literature Review, to St. Michael administrators. Chuck Lockhart, chief administrator at St. Michael, revealed “We came to the conclusion that a natural environment is a healing environment” (Leccese, 1995), whereas project manager Dan Burbine claimed “Money is the name of the game, and if you have a good experience here you’re going to come back” (Leccese, 1995). Bottom line, James Burnett knew that “well-designed entry drives, car parking areas, drop-off zones, and gardens affect the patient’s sense of confidence” (Leccese, 1995).

This study does not include a face-to-face or phone interview with James Burnett. His design approach to the St. Michael campus is documented in a case study in Chapter Five of *Healing Gardens: Therapeutic Benefits and Design Recommendations*, and it provides ample insight into the design development phase. There is no proof of what, if any, type of user input was retrieved from St. Michael patients or hospital administrators before the design was created. James Burnett's own beliefs and experience hit home when his mother passed away in a cancer ward. "It's tragic that people have to leave the planet in these unbearable situations," Burnett says, "They're like prisons: tiny little rooms with people coming in and jabbing you and TVs blaring all down the hall" (Leccese, 1995). The author assumes that the designer subordinated his personal tastes and used research and experience as a basis to create a responsible landscape that fosters and supports a healing, therapeutic environment for the users of the St. Michael campus. James Burnett states:

The charge given to the design team by the Sisters of Charity and the administration of St. Michael was to establish a model facility that would set the standard for all future Sisters of Charity institutions. The design emphasizes a core Sisters of Charity value: creating an environment that recognizes healing is possible even when curing is not. The landscape is intended to complement the hospital by providing a healing environment, harnessing the powers of nature. The design is one of simplicity and order; thereby allowing a focused environment for personal healing (Marcus and Barnes, 1999).

Further detailed information, site-specifics, illustrative maps, and visual aids will be given in Chapter V: Findings. This chapter provided introductory information, a tour through the St. Michael campus, and a glimpse into the philosophy and mission behind the hospital. Given this information, the next chapter will discuss the results and implications of the data collected at St. Michael, ten years after its inception.

CHAPTER V: FINDINGS

This chapter discusses, through a primarily qualitative and interpretive analysis, the findings of the methods used to collect data at the St. Michael Health Care Center. Visual analysis and behavioral observations are graphically represented on illustrative maps and discussed in narrative format. Information gathered through interviews is organized according to each of the topics addressed in the survey questionnaire. Due to the span of information needed, the majority of questions were open-ended. These questions were analyzed and the results were grouped into content clusters, or common categories of answers. Some quantitative analysis will be shown in tables with brief summations that explain personal interpretations.

Ambience

The feel of the St. Michael campus is one of a quiet and peaceful secluded community. It is nestled within a bustling commercial area and main Interstate of Texarkana, Texas. The gently rolling site, bisected by two streams and configured with tree preservation in mind, remains true to the Texarkana pine forest. In early morning hours, the staff report wild deer running through the trees. The sound of fountains and bird-song abound. When seated anywhere on the campus, there is always an opportunity for sun or shade. Detailed paving, seating, fountain features, and container plants contribute to the texture and richness of the campus. Maximum use of seasonal color is furnished through flowering trees and shrubs. In a general description of the outdoor spaces, James Burnett states: "The approach to the landscape site development is to preserve and enhance the natural attributes of the setting and to create a harmonious relationship between the hospital and the site. This was a critical objective to the client,

as this project is the first of its scope and size in the community. Care was taken not only to make the project unimposing, but to develop a level of fine, human-scale detail” (Marcus and Barnes, 1999). This goal was successfully achieved. The landscape is unimposing in that it lures the visitor in and produces an immediate feeling of comfort. The tree preservation throughout the site not only scales down the hospital buildings, but provides a sense of security and familiarity.

Due to time constraints, the author was unable to witness the seasonal differences in the microclimate of the campus, but the staff spoke of its beauty throughout the year. At one end of the pond, a large spruce tree is decorated at Christmas. The hospital holds seasonal events including a fishing tournament and an annual Easter egg hunt. Not only is the campus aesthetically pleasing; it provides opportunities for interaction.

Next presented are illustrative maps. The first map, Figure 5.1, includes the rehabilitation hospital with its entry court and outdoor therapy area. The second map, Figure 5.3, includes the north and east sides of the main hospital, displaying the visitors’ entry with shade arbor and fountain, the children’s play area, the main entry garden with water feature, the pond and nature trail with bridge, the Garden of Balance, and the dining court. The third map, Figure 5.5, illustrates the Shirley Burnett Peace Garden with the raised wooden deck across from it. Maps documenting experiential analysis are shown directly behind the illustrative maps in Figures 5.2, 5.4, and 5.6. These include major and minor traffic flow, public and semiprivate seating, and inviting views from within the hospital buildings.

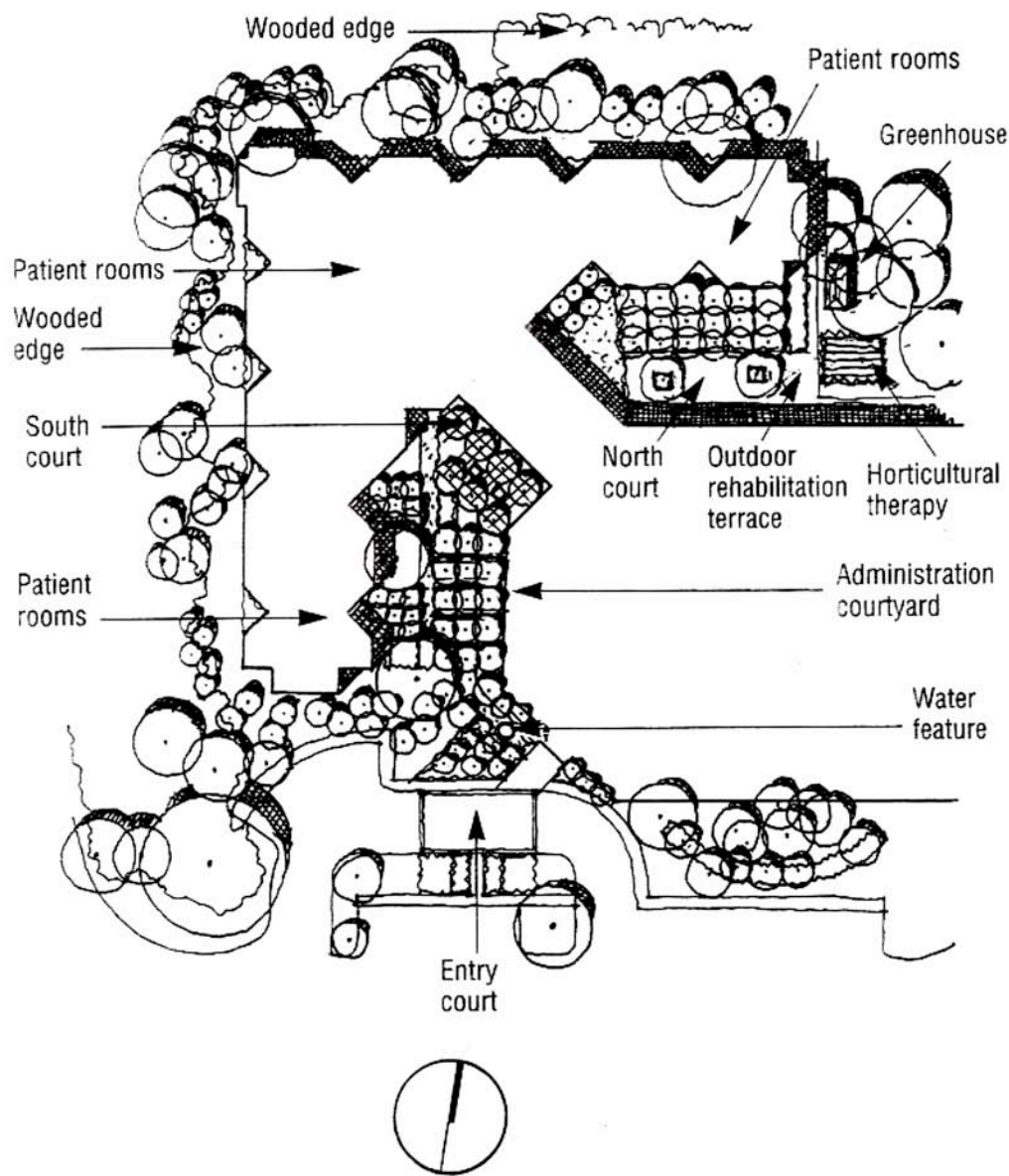
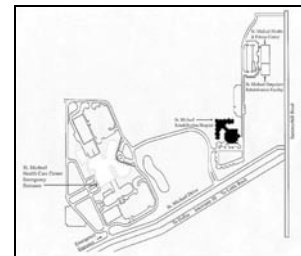


Figure 5.1
Rehabilitation Hospital
Layout



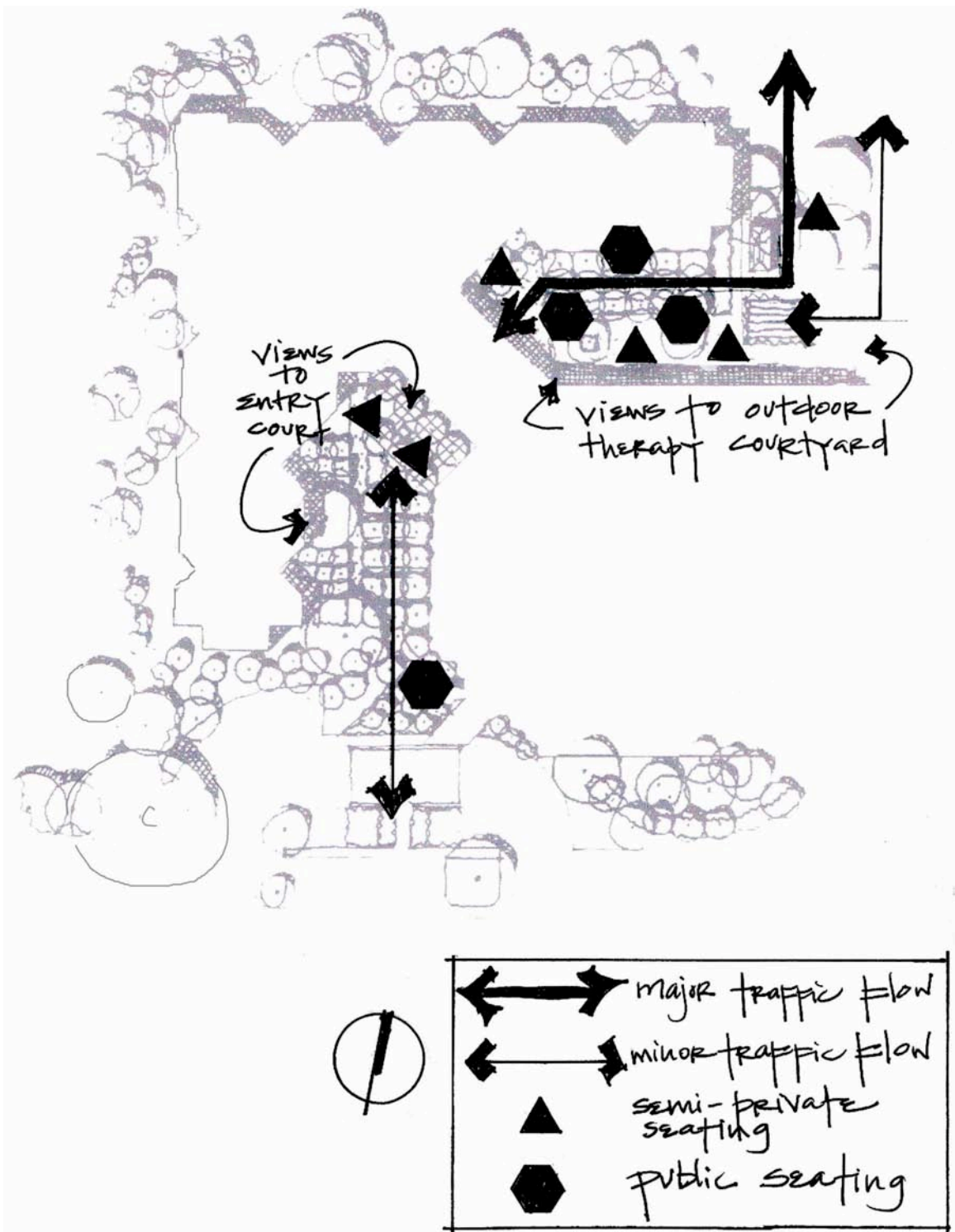


Figure 5.2
Rehabilitation Hospital
Experiential Analysis

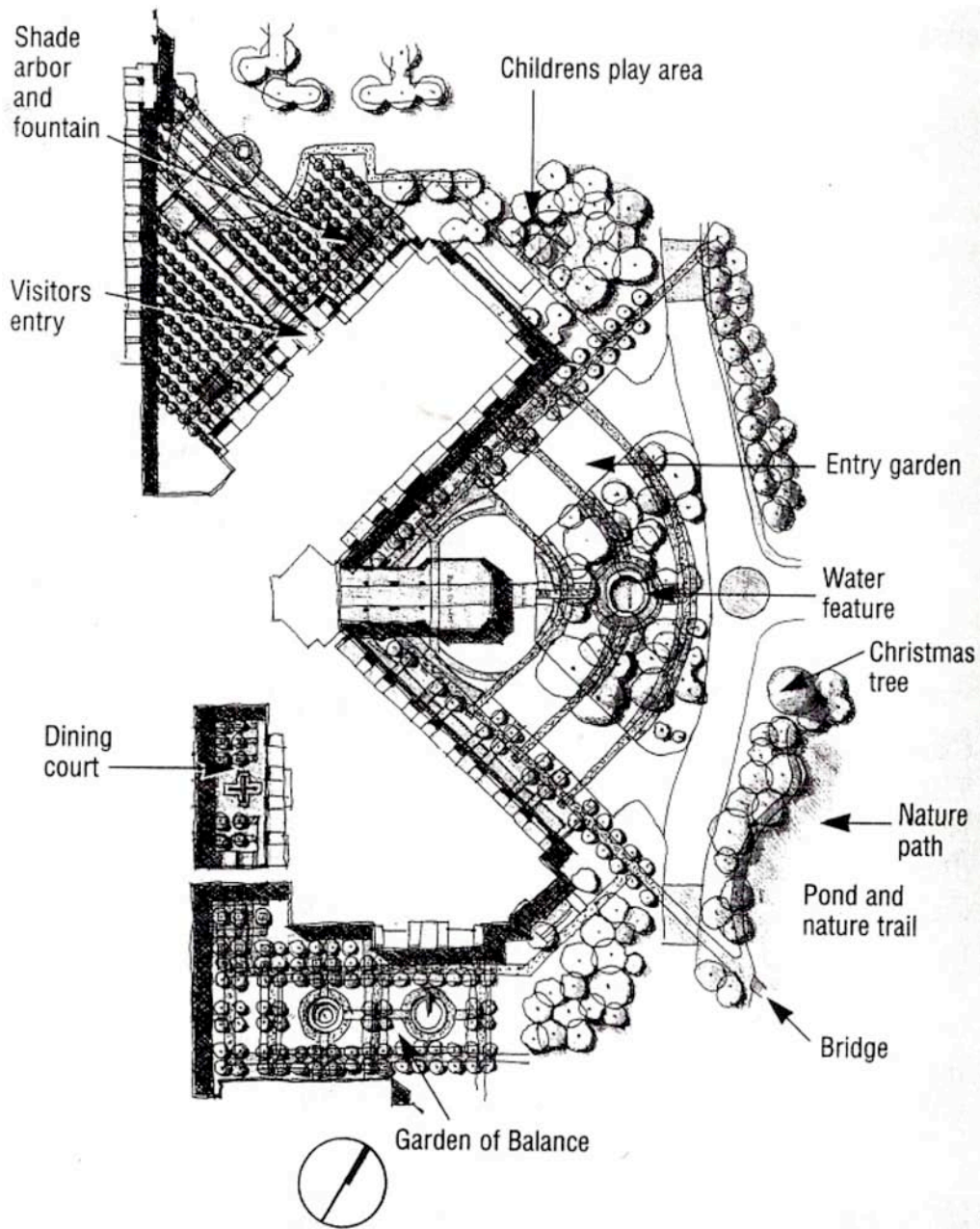
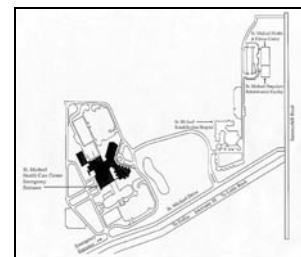


Figure 5.3
Main Hospital
Layout



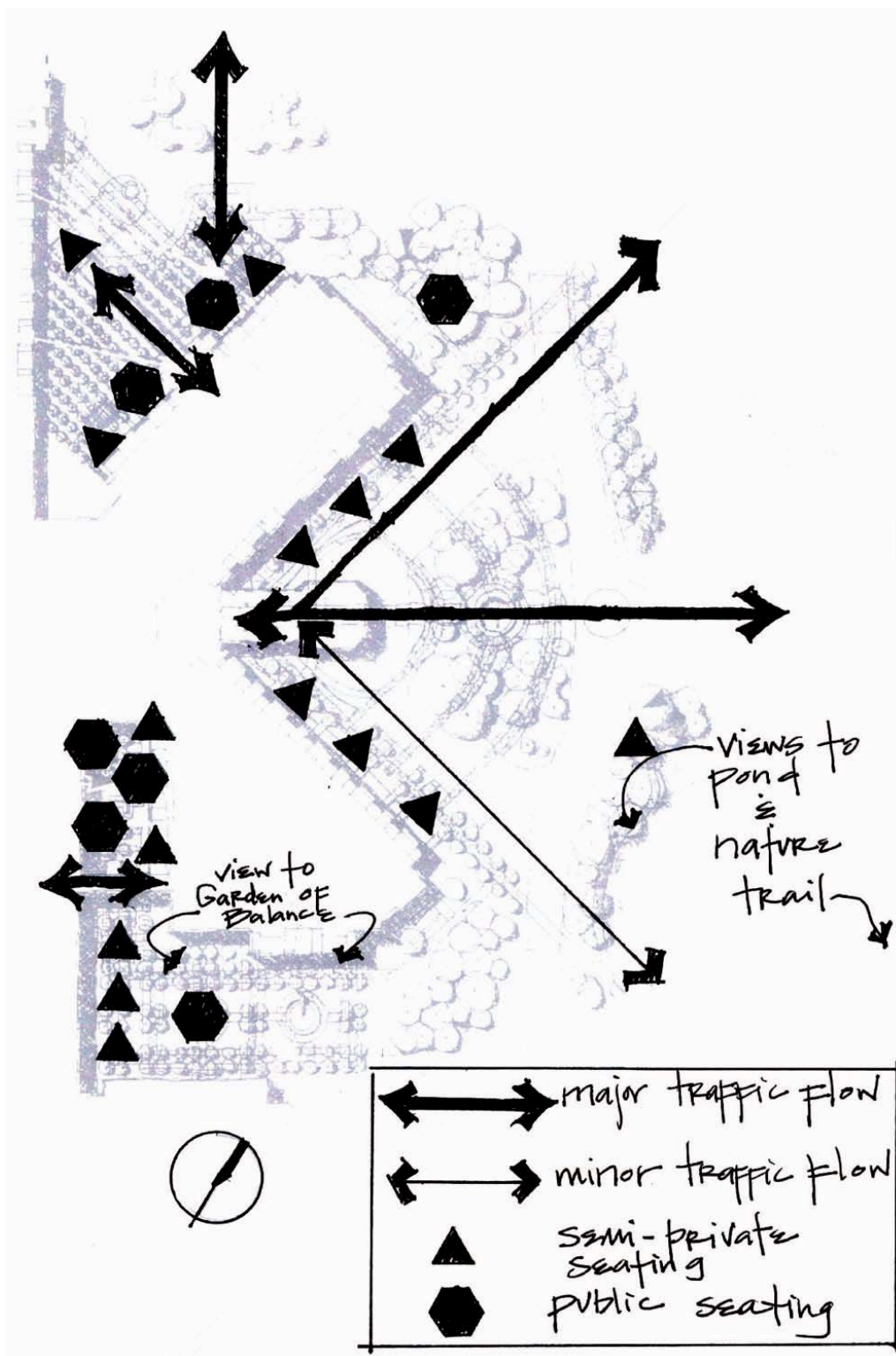


Figure 5.4
Main Hospital
Experiential Analysis

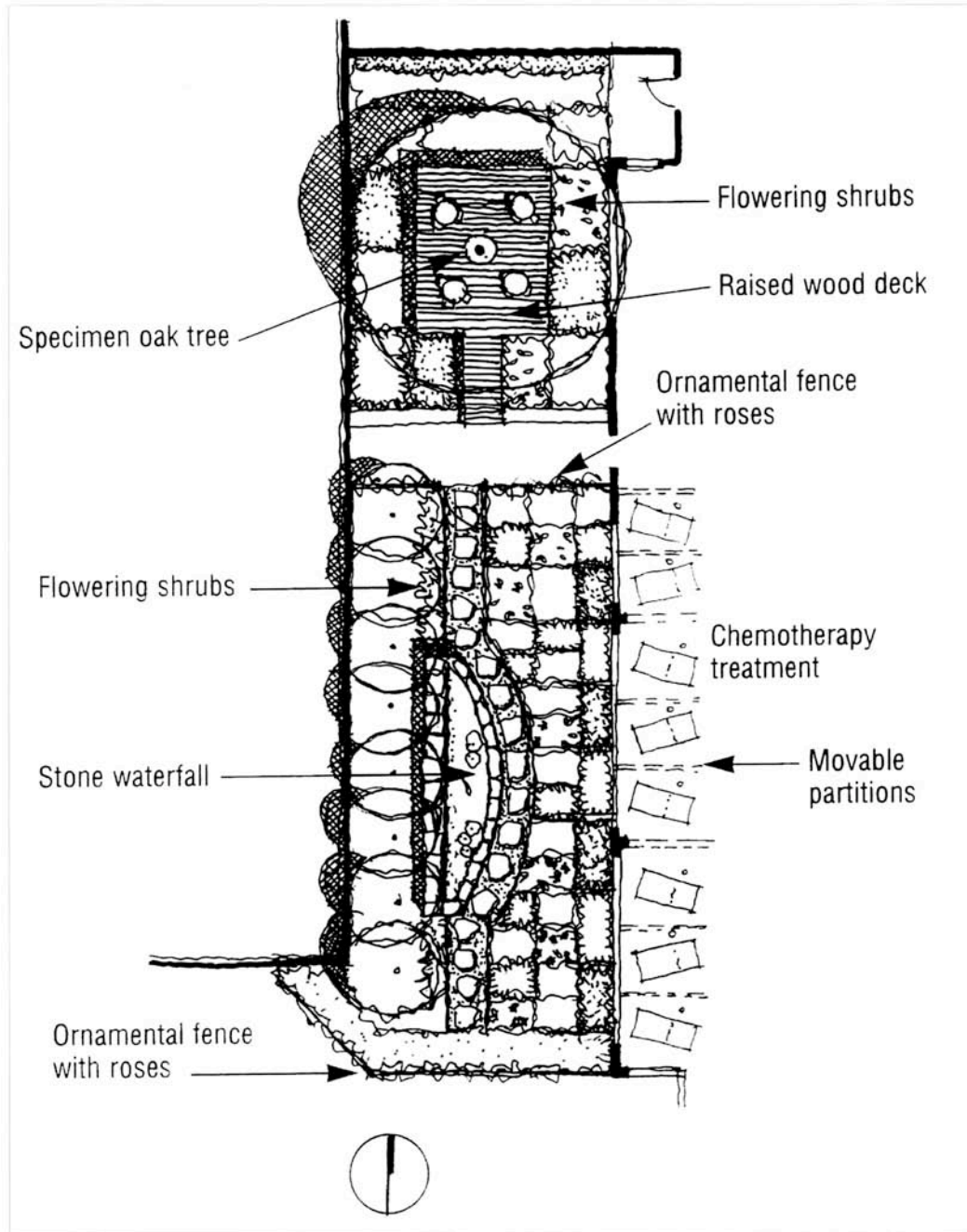
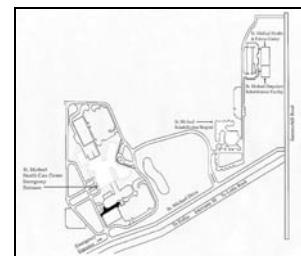


Figure 5.5
Shirley Burnett Peace Garden
Layout



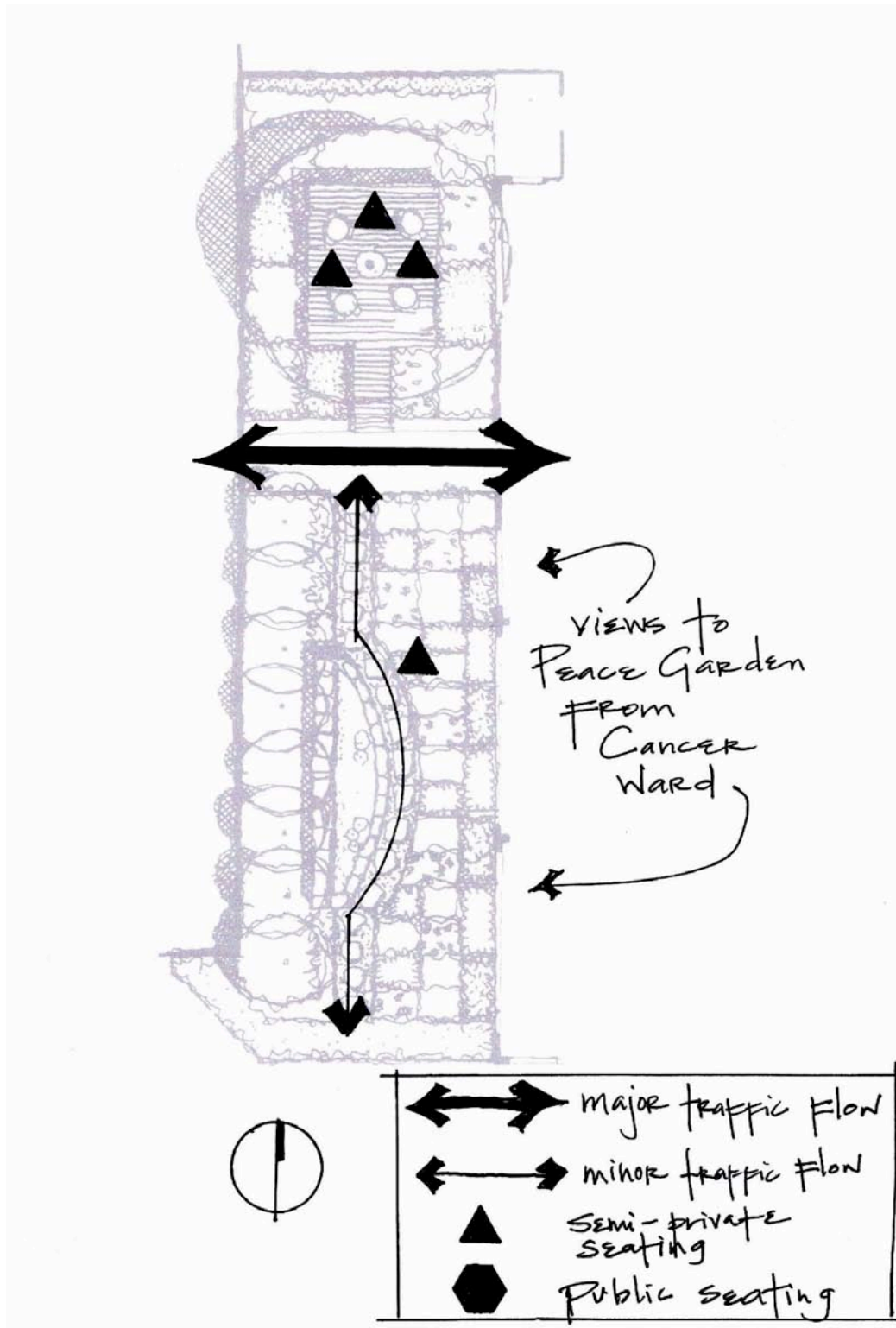


Figure 5.6
Shirley Burnett Peace Garden
Experiential Analysis

Campus Use

Pride and awareness of the St. Michael campus contribute to its constant utilization. There is something inviting outside of every door. Way-finding and signage is very clear, as shown in Figures 5.7 and 5.8. Due to the amenity of windows throughout the hospital, anyone spending time outside can easily find their way back in and vice versa. The layout of the hospital grounds is such that it is equally convenient to travel inside as outside when moving between most destinations. The significance of this may be that the people observed passing through chose an outdoor route for reflection over an indoor route, also contributing to two hundred fifteen more users passing through than stationary users.



Figure 5.7
Signage I



Figure 5.8
Signage II

In eleven hours of observation over a three-day period, there were a total of three hundred forty-nine user-observations recorded throughout the campus. Two hundred eighty-two users passing through were recorded: thirty at the rehabilitation hospital; seventy-two at the main entrance, zero at the dining court, one hundred seventy at the north entrance, zero at the play area, zero at the Garden of Balance, ten at the pond and



Figure 5.9
Users Passing Through
Rehabilitation Hospital



Figure 5.10
Users Passing Through
Main Hospital

nature trail, and zero at the Shirley Burnett Peace Garden. This is represented in Figures 5.9 and 5.10. The Shirley Burnett Peace Garden map is not shown due to the absence of users.

The movement recorded in Figure 5.9 represents a shortcut from the parking lot of the rehabilitation hospital. Employees were seen going to and from vehicles. The movement in Figure 5.10 shows heavy traffic at the north entrance, also known as the visitors' entrance. Many visitors were seen arriving here and many employees were seen leaving here. This is the closest lot to the main building.

Sixty-seven stationary users were recorded throughout the campus: fourteen at the rehabilitation hospital; eleven at the main entrance, sixteen at the dining court, eighteen at the north entrance, five at the play area, zero at the Garden of Balance, three at the pond and nature trail, and zero at the Shirley Burnett Peace Garden. This is represented in Figures 5.11 and 5.12. These are the users that were approached for interviewing.

Most of the exterior areas throughout the campus are for passive use, but the north courtyard at the rehabilitation hospital is a space for active use. In addition to being a shortcut from the parking lot, the north courtyard is a terrace designed for outdoor therapy activities. It is located adjacent to the indoor therapy gym. There are shaded seating areas for relaxing, an adjacent greenhouse, and raised garden plots that support a horticultural therapy program. The hospital does not employ a horticultural therapist, but the daytime occupational therapists act the part.

Kristi Rountree is a residing occupational therapist at the rehabilitation hospital. In a discussion of the north courtyard, Kristi was asked "Do you ever use nature as part of

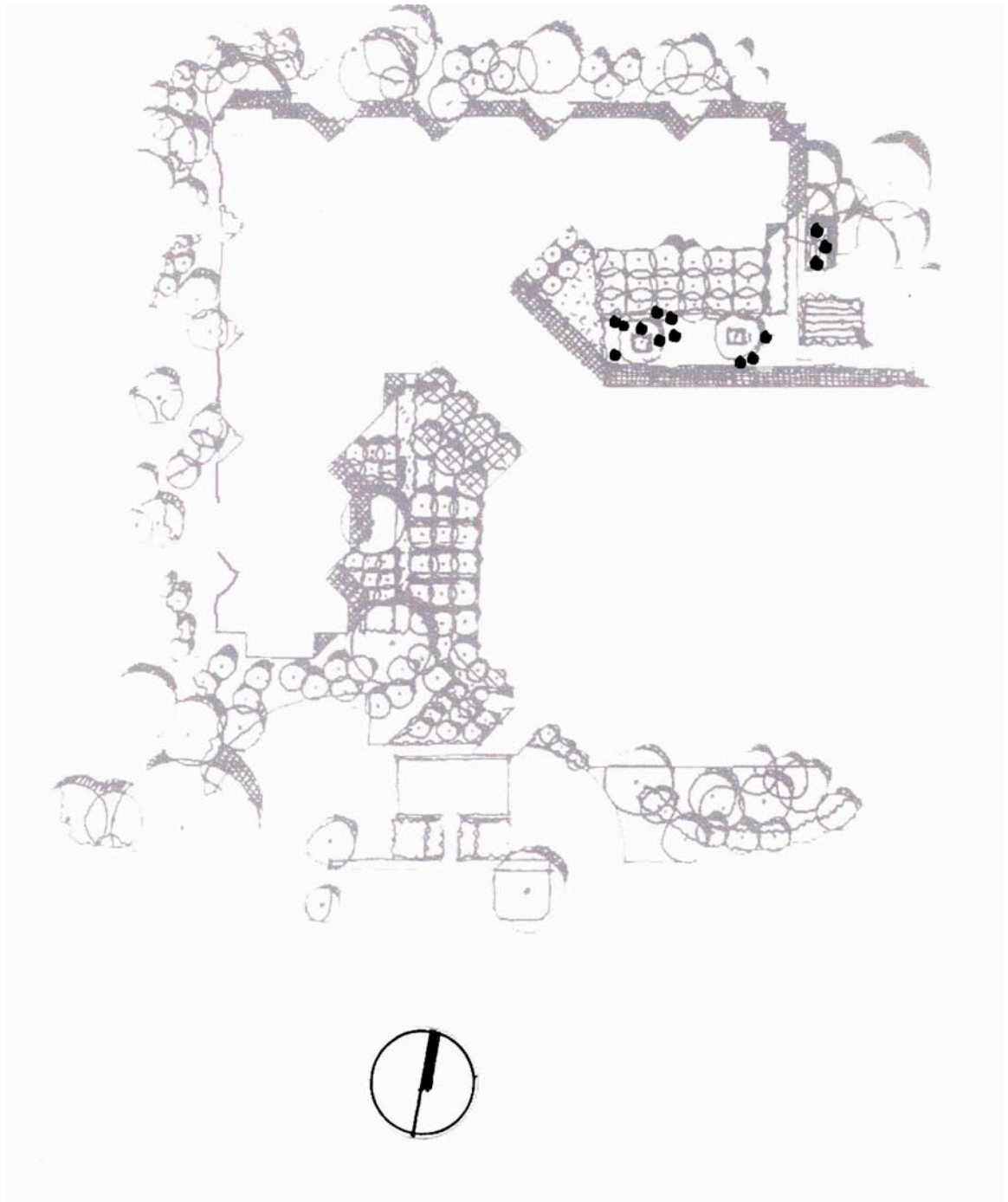


Figure 5.11
Stationary Users
Rehabilitation Hospital



Figure 5.12
Stationary Users
Main Hospital

your therapy and in what ways?” She responded with “All the time. I use gardening with the patients to build up endurance, to build up standing tolerance, and activity tolerance. It is very motivating for a patient. I also make it a goal. If a patient comes in and their personal goal is to get back into their garden, then that’s what I’m going to work on. It’s going to be very ‘activity-of-daily-living’ based and real. Also, whenever we grow stuff from our garden we take it in and we cook with it. We make pickles, we’ve done cucumber salads, and whenever the gourds get ready, we’re going to make bird houses!” Note the use of the courtyard in Figures 5.13 and 5.14



Figure 5.13
Horticultural Therapy



Figure 5.14
More Horticultural Therapy

The stationary use at the main hospital was much more passive and contemplative. Typical stationary users were found relaxing, eating in the dining court, and staff taking work breaks. Many users spend time at the north entrance because it is the designated outdoor smoking section for the hospital, as told in Figure 5.15.



Figure 5.15
Smoking Area

Users were most difficult to approach at the front entrance of the hospital. Large rocks provided for seating allow for alone time. Note the man in the background in Figure 5.16.



Figure 5.16
Alone Time

One user had a hostile response and declined an interview. He claimed he could not speak to anyone of anything because his father was dying inside. He was appalled at the attempt from the author to take a few moments of his time. This was when I noticed the difference between use at the rehabilitation hospital and the main hospital. The feel at the rehabilitation hospital was very positive and upbeat, whereas the main hospital had a more meditative feel. Stationary users at the pond and nature trail are seen in Figure 5.17. Again, the use is of contemplation and reflection.

There were no users recorded at the Garden of Balance or the Shirley Burnett Peace Garden, partly because access back into the hospital from the Garden of Balance is denied and the Peace Garden is mainly a viewing garden for patients undergoing



Figure 5.17
Pond Enjoyment

chemotherapy treatment. There was no inquiry as to why the doors from the Garden of Balance to the hospital were locked, but this hinders its use. This issue can be taken to administration for discussion and resolution. The location of the Garden of Balance also contributes to its underutilization, as it is not easily found by visitors.

Table 5.1 shows the percentage of respondents using the campus for various activities. These are responses to the question “What do you generally do out here?” Interviewees were instructed to check as many activities as were relevant. Results are shown from a highest to lowest progression of use.

Table 5.1

Percent of Respondents Using Campus for Various Activities:

	<u>Percent</u>
Sit and relax (read, smoke, coffee)	67
Sit and talk with friend(s) or coworker(s)	63
Eat	52
Come out for a walk	33
Outdoor therapy	30
Sit and wait (for a friend or appointment)	26

(table cont.)

Visit with a patient (sit, walk, stroll)	22
Pass through on my way to another building	19
Tend to my plants/garden	15
Attend/hold work meeting	3
Let my children run and play	0

The most frequent patterns of use were for a people to find a place to sit while eating, on break, or smoking a cigarette. Thirty-three percent were seen walking and thirty percent were enjoying the outdoor therapy area at the rehabilitation hospital while fifteen percent tended to plants. This was the most enjoyable type of use to watch. Nineteen percent were observed ‘en route’ and not spending any time on the campus, and three percent reported attending or holding work meetings. Although five stationary users were recorded in the play area, zero percent responded to the “let my children run and play” option.

Interviews with Users of the Campus

When asked how *often* they used the campus, close to half of the interviewees said “daily”. A substantial number use the campus “many times” a day, while less than one-quarter reported “first time,” “every now and then,” and “one to two times a week.” With the presence of ample seating throughout the campus, as shown on the experiential analysis maps, it was not surprising to find that over half reported using the outdoors for ten to thirty minutes at a time. One-third reported spending periods of more than thirty minutes on the campus. Four out of the twenty-seven reported spending only five to ten minutes outdoors, and zero reported spending a couple of minutes.

This information was obtained from question numbers two, three, four, and seven of the survey questionnaire. In all, a total of twenty-seven people spending time outdoors were interviewed. Of these, twenty were female and seven were male; thirteen were staff

and employees, nine were visitors, three were outpatients, and two were inpatients. Though possibly due to their condition, it was disappointing to see so few patients utilizing this attractive campus. This implies that hospital staff and administration need further education about the campus and its design intentions. This may trigger the inclusion of campus use into patients' regimens.

What Users Liked Best About the Campus

When asked "What is your favorite thing about this place?" interviewees revealed what was significant to them at the St. Michael campus. The most popular answer was the water elements. Nine fountains and one lake are threaded throughout the St. Michael campus master plan. One man reported his favorite thing as being the water fountain in front of the rehabilitation hospital because "there was a bullfrog in it and I saved him and put him in the bushes." This experience lifted his spirits. Thirty percent reported the aesthetic attractiveness and design of the campus as appealing to them. An outpatient of the rehabilitation hospital "wishes she could be out here more often." After spending time in the courtyard, she had a similar brick patio built at her house.

Table 5.2

Percent of Respondents Who Named These Qualities as What They Liked Best:

	<u>Percent</u>
Water elements	33
Aesthetic attractiveness and design	30
Flowers, vegetables, trees, plants	26
Serenity, peace, comfort	22
Shade	11
Wildlife	11
Greenhouse, outdoor therapy	7
Seating	7

The percentage of respondents who named certain qualities as what they liked best is shown in Table 5.2. The vegetables, flowers, and plant life were emphasized, as were the feelings of serenity and peace. One visitor enjoyed “the seeming seclusion and wooded forests with all of the shade and peace.” Wildlife was mentioned by both staff and employees. The therapists at the rehabilitation hospital praised being “able to incorporate therapy with an outside environment.” Another staff member enjoyed being outside because the inside was too cold, and a visitor at the north entrance raved about the seating in the designated smoking area.

What Happens to People at the St. Michael Campus

When asked “Do you feel any different after you’ve spent time outdoors or in the garden?” all but three of the twenty-seven interviewed reported a positive change in mood. Three claimed there was no difference in feeling. Note the percentage of respondents that reported mood changes in Table 5.3.

Table 5.3

Percent of Respondents Reporting Various Types of Mood Changes:

	<u>Percent</u>
Calmer, more relaxed, more content, less stressed	74
Rejuvenated, stronger, refreshed	15
Inspired, more positive	11
No difference in mood	11
Religious connection, moves me	3
Escape from work	3

The most frequent and consistent response was “yes, calmer and more relaxed.” This response indicated a drop in energy level. One male visitor claimed he “truly feels more at peace after spending time outside, at peace with life in general.” On the other hand, a female visitor felt “rejuvenated and inspired,” a response indicating a rise in

energy level. An outpatient at the rehabilitation hospital answered “Yes, I feel as rejuvenated as the plants when they are watered. We just love being outside!” Clearly, a positive mood was generated in people after spending time outdoors at St. Michael. People left the campus feeling less stressed, relaxed, more content, and inspired. One inpatient, a superintendent of a golf course, claimed that the campus put him in his element, that it made him feel “closer to God and nature, there really is a religious connection for me.” He had been in the hospital for six weeks and was very thankful of the design of the area. He spent at least one hour outside every day. It helped him to get through his difficult time at the hospital.

What Specific Characteristics of the Campus Helped Bring About a Mood Change

Most people had no trouble linking a specific characteristic to their change of mood, even if they had never thought of this before. Many listed a range of elements. One employee who uses the outdoor therapy area at least once a day listed “the gentle breeze, the smell of flowers and dirt, the birds, and working outside on something that gives you immediate gratification. Having something to follow and care for daily is very rewarding”. She said that patients have claimed the plant materials around the campus as their own. Some even help with the maintenance. Those who reported water elements as being helpful in bringing about a mood change appreciated the *sound* of the water. Tactile and olfactory sensations were also reported. Many commented on the *feel* of the breeze and the *smell* of the flowers. One visitor enjoyed a nostalgic feeling he received, “the flowers and plants remind me of when I was little; I used to sit outside and try to catch bumblebees. I would use a shingle as a paddle and try to pop them.” Another visitor got excited because “it sounds like country in the city!”

Trees and plants elicited many positive feelings. A visitor in the dining court said the atmosphere in general helped her to feel very content. Her son was in the hospital because of a really bad car accident, and spending time outdoors was putting her more at ease. She claimed “when the plants and flowers are tended to, it is really beautiful.” A staff member gave many thanks for the St. Michael campus, “It leaves me feeling better and the seasons here are just gorgeous.” Table 5.4 illustrates specific characteristics of the campus that helped to bring about a mood change.

Table 5.4

Percent of Respondents Who Named These Qualities as Helpful in Attaining a Mood Change:

	<u>Percent</u>
Features involving auditory, olfactory, or tactile sensations	89
Sounds, smells	33
Wildlife	30
Fresh air	15
Light, sunshine	7
Shade	4
Trees and Plants	74
Flowers	22
Nature	19
Greenery	15
Trees	11
Seasons	7
Psychological/social aspects	37
Peaceful, quiet	11
Comfort, homey	7
No traffic noise	7
Closer to God	4
Gratification	4
Privacy	4
Practical Features	22
Good maintenance	11
Accessible	7
Greenhouse, pathways and amenities	7

(table cont.)

Places to sit	4
Aesthetic Design Features	11
Management Policy (smoking section)	7
No Answer	7
Don't Know	4

Psychological and social aspects of the campus also played a role in mood changing. A female visitor pointed out “seeing wildlife, happenings of nature, and living things that aren’t man. This puts things into perspective and helps one realize respect and co-existence.” An outpatient at the rehabilitation hospital commented on the social order and behavior of nature. “Just watching things behave, such as birds feeding,” helped this person feel relaxed.

Good maintenance and accessibility to the campus was pointed out. Users also appreciated the greenhouse, pathways and amenities, and places to sit. A few interviewees noted aesthetic design features and the general appearance of the campus as positive, in addition to the smoking section at the north entrance of the hospital. Very few claimed they did not have an answer when asked what characteristics brought about a change of mood, and even fewer said they did not know the answer.

Impediments to Use and Desired Changes on the Campus

Primarily work schedules and weather inhibited people from spending as much time outdoors as they would like. These are grievances that cannot be controlled by any design standards. Patient load or status was also mentioned when interviewees were

asked “Is there anything that prevents you from coming out here as much as you would like?” See Table 5.5 for responses to this question.

Table 5.5

Percent of Respondents Who Named These Impediments to Using the Campus:

	<u>Percent</u>
No impediments	67
Work schedule	15
Weather (heat, humidity, rain)	11
Patient load, patient accessibility	7

Fortunately, the general consensus was that there were no impediments to using the St. Michael campus. When asked if there was anything they would like to see changed on the campus, almost one-half said “No, change nothing!”

There were, of course, practical changes suggested. Those desired dealt with general maintenance and upkeep of plant materials and fountains, and the request for more movable seating and cushions, shown in Table 5.6.

Table 5.6

Percent of Respondents Who Desired These Changes:

	<u>Percent</u>
Change nothing	44
Aesthetic Improvements	15
Add swing	7
More flowers	4
More movable chairs	4
Practical Changes	14
Cushions on chairs	7
Don't lock doors	7
More Elements	11
Build more water elements	7
Build more raised beds	4

One outpatient claimed if she could add anything, it would be her time spent there. She loves the campus and wishes her stays were longer.

The fountain in the dining court that doubles as the donor wall was not running and this was a complaint. In 1999, in a case study in Chapter Five of *Healing Gardens: Therapeutic Benefits and Design Recommendations*, the designer stated that for safety reasons, the donor wall was surrounded by a post and chain system. This is not there now, but the fountain is turned off. This is another issue that should be taken to administration. Personal responsibility is a part of life and there were no obvious reasons as to why this would be dangerous. At the north entrance, grates have been put on top of the two recessed fountains in which people had fallen. Though many voiced this as taking away from the aesthetics of the fountains, one visitor actually liked the grate shown in Figure 5.18. It is as though maintenance just stuck whatever grates were available and fit the fountain. No design issues were considered.



Figure 5.18
Fountain Grate

There did not seem to be a significant difference in the use of the campus between weekdays and weekends. The St. Michael campus has security patrolling twenty-four hours a day, seven days a week. This harbors a sense of normalcy and routine throughout the site. At the rehabilitation hospital, no therapy sessions are held on the weekends. This equals no outpatient visits and smaller staff, but there are still many visitors present. The traffic in and out of the main hospital remained consistent from weekday to weekend. A couple was spotted walking their dog around the lake. This suggests that local residents enjoy the space as a neighborhood park.

Summation of Findings

The St. Michael Health Care Center campus is a highly appreciated oasis that brings joy, contentment, and peace to all types of users, those who pass through as well as those who spend more time there. There is no doubt that for those who use it, the campus reduces stress and facilitates relaxation and healing. Patient, staff, and visitor perceptions all reported positive benefits from spending time outdoors at St. Michael. In a tape recorded interview with Sandra Griffith, manager of the cancer center, when asked about the importance of the human connection to nature in terms of healing, she voiced “I feel that it’s real important. I feel that patients do better and heal. It seems like the medicine works better if they’re exposed to nature and if they actually have peaceful and calming surroundings.”

The focus of the St. Michael design was to create an environment that recognizes that healing is possible even when curing is not. St. Michael successfully achieves this throughout the entire campus. The campus is easily accessible from within the hospital

and each space provokes a different feeling. The floor to ceiling windows connect the outside to the inside and provide views throughout the complex. The options of places to be when one walks outside seem endless. Every place is different, harnessing the powers of nature via the five senses. There are spaces for social interaction and spaces for individual contemplation. The campus' orderly design provides for a focused environment allowing personal healing.

The few changes requested--adding a swing, more flowers, more movable chairs and building more water elements and raised beds--could conceivably be realized through fundraising or donor support. Practical changes such as not locking doors that access the hospital need to be addressed to administration or plant operations. The impediments to the campus listed such as work schedules, weather, and patient loads, are not affected by the design.

Although the interviewees articulated differently what effect the garden had upon their feelings, it seemed that all but a few were affected very positively. Due to the results of the twenty-seven interviews conducted, the behavior observations, and the visual analysis, the St. Michael Health Care campus is, indeed, a successful therapeutic garden. Chapter VI will elaborate further on this conclusion.

CHAPTER VI: CONCLUSIONS

This thesis has explored therapeutic garden design as a component of landscape architecture, examined the use of a POE as a tool, and provided a POE of the therapeutically designed St. Michael Health Care Center campus. Historical information, cultural attitudes, contemporary views, contemporary action, and relevant research pertaining to contemporary therapeutic garden design have all been discussed. The POE methods of visual analysis, behavioral observation, and user interviews have been introduced. A tour of the St. Michael campus has been given in addition to a glimpse into the philosophy and mission behind the hospital and the design of the site. Feedback from patients, staff, and visitors of the St. Michael campus has provided valuable insight into the therapeutic benefits of the campus. The feedback has also begun to shed light upon the shortcomings of the campus. Based on the feedback and findings, suggestions for improvement have been formulated. This chapter will provide a summation of the study, recommendations for improvement, and limitations and implications for future research.

In Summary

This research has documented that individuals receive therapeutic benefits from contact with nature. This discussion has been around for thousands of years. Historical accounts prove that exemplary hospitals of the past utilized the garden for therapy. When the treatment of illness changed and germ theory was developed, the design of the hospital also changed. The focus shifted from the comfort of a patient to the treatment of a disease in technologically driven hospitals. Presently, a renewed interest in user-friendly healthcare environments has emerged. Those involved in the design of

healthcare facilities such as owners, users, medical planners, architects, interior designers, artists, and landscape architects, are beginning to believe that a therapeutic hospital environment can affect mood, reduce stress, influence health outcomes, and influence patient and family perceptions of their healthcare provider. What better time to evaluate the restorative power of nature in a hospital environment.

The first goal of this POE was to evaluate patient, staff, and visitor utilization and perceptions of the St. Michael campus. How often did they use it? How long did they generally stay? What did they do? What was their favorite element? These were some of the questions asked. Surveys of campus users revealed that most of the users were staff of the hospital and the least frequent users were patients. Over half of the users interviewed enjoyed the outdoors for up to thirty minutes at a time. Even though use at the main hospital was passive and use at the rehabilitation hospital was active, users sought the campus in some way to relax, escape the stresses of the hospital, and enjoy the restorative qualities of nature. The water elements proved to be the favorite feature of the campus. The soothing sounds of the fountains and lake provided contemplation for the patients coping with an illness, the staff dealing with a stressful day at work, and the visitors coping with grief.

The second goal of this POE was to determine whether the campus reduces stress and fosters restoration. All but three of the campus users interviewed reported a positive change in mood after spending time outdoors. Seventy-four percent mentioned feelings of peace and contentment, relaxation, stress reduction. This certainly suggests that the campus relaxes and reduces stress. Fifteen percent voiced feelings of rejuvenation and inspiration. This suggests that the campus fosters restoration to a degree. Data collected

suggested that the specific qualities involved in producing mood changes were those involving auditory, olfactory, and tactile sensations such as sounds, smells, and fresh air; trees and plants; psychological and social aspects such as peace, comfort, and gratification; practical features such as maintenance and accessibility; and aesthetic design features.

The third goal of this POE was to determine any barriers or constraints to use of the campus. Content analysis of interview data uncovered the following impediments: work schedule, weather, patient load, and patient accessibility; all of which are not affected by the design. In this case, patient accessibility relates to the physical condition of the patient and their inability to get outdoors. It does not have to do with the actual indoor to outdoor accessibility, which has been proven to be an accomplishment at St. Michael. Most interviewees reported that there were no impediments limiting their use of the campus, but there was a general lack of knowledge about the campus and the philosophy behind its design intentions. This proves to be an impediment to its enjoyment as well as its benefits. When approached, some interviewees were unaware of the profession of landscape architecture.

Recommendations

St. Michael users revealed specific qualities of the campus that helped them to relax or feel less stressed. The data collected can subsequently be used to inform guidelines for the design of future Sisters of Charity institutions, as well as other exterior hospital environments. Campus users communicated the following qualities as helpful, or desirable, in order of most to least often mentioned: (1) features involving auditory, olfactory, or tactile sensations such as sounds, smells, wildlife, sunlight, and shade; (2)

trees, plants, flowers, greenery; (3) psychological and social aspects of the campus such as peaceful areas, comfort, no traffic noise, and opportunities for privacy; (4) practical design features such as the greenhouse, pathways, and amenities; and (5) management policy such as designated areas for smoking.

When the users were asked if they had any recommendations for change, almost half desired changes that were practical and that would be easy to accomplish. Recommended physical changes included adding swings, more flowers, and more movable furniture. Users requested that the cushions on outdoor seating be replaced, mainly in the dining court. There were suspicions that the cushions were being stolen. Many users also requested that the doors remain unlocked from the Garden of Balance, a recommendation that can be taken to hospital administration. Other recommendations included building more raised beds in the north courtyard at the rehabilitation hospital because many patients use them and therapists desire more, and installing more fountains throughout the campus because of the soothing sounds of running water.

Based upon site visits and findings, I found that the St. Michael campus was generally a very successful therapeutic garden, even if the users did not know it. It was disappointing to discover a lack of knowledge on the part of all users regarding the design of the campus and its healing benefits. Knowledge and awareness of this needs improvement. The staff and administration should be educated as a part of their orientation. This finding advocates the installation of educational information and brochures throughout the hospital. This information should include a brief discussion about the therapeutic effects of gardens and a detailed summary of the history and evolution of the design of the St. Michael Health Care Center and its campus. This will

educate patient, staff, and visitors, and also serve as an outlet to enlighten the public about the profession of landscape architecture.

Making the patients, staff, and visitors aware of the potential of the campus to reduce stress and promote healing is conducive to influencing everyone's mindsets and outlooks. This provides for better attitudes, better quality service, and better health outcomes, which is also an important consideration in St. Michael's maintaining accreditation. This improvement within the overall hospital experience can further influence patient healthcare satisfaction, assessments of quality, intentions of patients to return, and the willingness to recommend a healthcare provider to others. It is a chain reaction.

Another recommendation is the issue of no accessibility from the Garden of Balance into the hospital, which hinders the garden's use. This could be an issue of safety for the hospital due to past occurrences, or this could be an oversight. This remains unclear. Regardless, hospital administration should be consulted. The lowered earth element in the Garden of Balance, shown in Figure 6.1, was designed as an amphitheater with over-scaled steps at seat height that focus on a central water feature. Hopes were that this amphitheater could accommodate groups for special events such as poetry readings, musical performances, or hospital gatherings. Currently, the amphitheater appears unkempt and underused. It was never mentioned whether or not special events occur in the Garden of Balance, which leads me to assume that they do not. This is a design intent that is not being met. Perhaps it was not a well conceived program element to begin with. The Garden of Balance is also not easily found by visitors. Its

underutilization is a shame because of the intriguing concept behind it. It possesses the potential to be an inviting gathering space.



Figure 6.1
Amphitheater

Users requested more raised beds like those in the north court of the rehabilitation hospital. The hospital could take advantage of this request and install raised beds and movable tables and chairs in the underutilized Garden of Balance. There is room close to the building to use as an outdoor therapy area. This would make the garden a more active and participatory area, as it was designed to be. This would also give patients in the main hospital the opportunity to use horticultural therapy as part of their healing process.

Further improvements to the campus concern the dining court. During my site visit, the fountain that doubles as a donor wall was not working. This can be attributed to a lack of maintenance, but may also be a safety concern for the hospital. The container plants in the dining court, shown in Figure 6.2, were in need of attention. This, again, is a maintenance issue that hopefully will be resolved, because lack of maintenance can cause

parts of the campus to be unusable. The remainder of the campus appeared to be in good care.

Another hope for the campus is that the design they encourages community involvement and participation. Doing this could provide volunteers who take patients outside, thus reducing the load of the staff. One sign of attempted community involvement is an outdoor environmental classroom that has been built by the Texarkana



Figure 6.2
Plants in the Dining Court

Junior League around the pond and nature trail. They have installed a sundial, an alphabet garden, and a light garden. There is already a sundial on the St. Michael campus that incorporates a sense of history into the sight. An element rather than a sundial would have been a better choice for this outdoor classroom. The alphabet garden is supposed to serve as an educational tool. Plants whose botanical names begin with every letter of the alphabet are placed around the nature trail in order. Informational signage is present, but in very poor condition. Most of the plants have lost their sign and their will to live, which is not a positive message. This is also not a very wise way to organize plant

materials because they are not appropriately planted for their sun or shade preferences. Furthermore, some patients, staff, and visitors may enjoy a group of kids walking around saying the alphabet, but others may find this to be a vexation to the peace and quiet. The light garden has plants and shrubs that bloom white or reflect the sun. Informational signage here is readable and in good condition. The idea of designing an experience such as this outside of the master planning process may have seemed to be a good one to those involved, but ultimately it appears out of place and neglected. It is unclear when this classroom is used, if ever. Do local schools take fieldtrips here and learn about dying plants? It appeared to be plopped down and left there. The Junior League needs to be informed of the condition of their environmental classroom if they have hopes for its success. They also need to be informed of a horticulturalist or landscape architect that can teach them about plant materials, appropriate conditions, and maintenance.

Lastly, a horticultural therapy program needs to be started at St. Michael. This hospital is passing up the opportunity to have this type of program as an integral part of the facility. The raised beds and greenhouse are provided at the rehabilitation hospital and were designed to support horticultural therapy. Several interviewees also requested more raised beds because the patients love using them.

This, in addition to the others, are all recommendations for the improvement and sustainability of the St. Michael campus derived from the feedback of users and personal findings from visual analysis, behavioral observation, and interviews. This study will be sent to administration at St. Michael as a resource for maintenance, management, and improvement.

Limitations and Implications for Future Research

Used as a landscape architectural measure, the POE structure in this thesis admittedly has several limitations. Although interviewees reported particular elements of the campus they found healing, the question of *why* they found these elements healing was not addressed. Nor was the issue of consumer satisfaction. With more time and experience, this research could have been better designed to highlight these issues. Due to primarily qualitative data, interpretations may also be considered tentative. This implies that this POE is strictly a tool for guiding future research.

This study also has sampling limitations. In terms of time and season, data collection occurred at the beginning of September, when the weather in Texarkana was still warm. This may have inhibited users to the campus and produced a bias for more shade elements. Future research should examine the full gamut of weather extremes and its influence on utilization. Other disadvantages include lack of an experimental control of the campus, absence of data from non-users, and patients' experience of the campus as viewed from the rooms inside.

Another question to ask is do brief episodes of stress reduction promote emotional coping or improved physical outcomes? This is an empirical question. The future of the landscape architectural contribution to the medical endeavor lies in clinical data. If a therapeutic landscape is successful, it will aid in healing and be evaluated by medical standards to obtain quantifiable outcomes.

Nevertheless, this evaluation suggests that a well-designed hospital campus can have a positive impact on all who participate. Available literature supports this notion.

The physical design and built environment must be examined, as well as the perceptions of the humans that use it.

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APPENDIX A: CONSENT FORM

Consent Form

Presented by: Leigh LaFargue
Louisiana State University
Graduate Thesis Work
September, 2004

Study Title:	Nature is to Nurture: A Post Occupancy Evaluation of The St. Michael Health Center, Texarkana, Tx.
Performance Site:	St. Michael Health Center campus, Texarkana, Tx.
Investigator:	Leigh LaFargue 2525 Hundred Oaks Baton Rouge, Louisiana, 70808 leighlafargue@hotmail.com
Purpose:	This study is to evaluate the therapeutic effects of the St. Michael campus on its users.
Subject inclusion:	Individuals who use the St. Michael campus.
Number of Subjects:	30-50
Study Procedures:	This study involves observations and interviews of the users of the St. Michael campus. Observations will be conducted by the investigator and interviews will involve questionnaires, in which users will be asked to spend 10-15 minutes answering open and close-ended questions about their experiences on this campus.
Benefits:	This study will contribute to a body of knowledge which expands the understanding of therapeutic garden design and the role nature plays in healing.
Risks:	There are no risks involved in this study. All responses are anonymous and consent forms will be kept in secure cabinets to which only the investigator has access.
Right to Refuse:	You may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which you might otherwise be entitled.
Privacy:	Results of the study may be published, but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.

Signatures:

The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigator. If I have questions about subjects' rights or other concerns, I can contact Robert C. Matthews, Institutional Review Board, 225-578-8692. I agree to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

Signature

APPENDIX B: SURVEY QUESTIONNAIRE

QUESTIONNAIRE

Presented by: Leigh LaFargue
Louisiana State University
Graduate Thesis Work
September, 2004

Location: _____

Date and Time: _____

1) The consent form has been read and consent given?

- ☐ Yes
- ☐ No

2) Your gender:

- ☐ female
- ☐ male

3) If you don't mind, would you tell me if you are:

- ☐ staff/employee
- ☐ patient who is in the hospital
- ☐ outpatient here for an appointment,
- ☐ shot, test, etc.
- ☐ visitor

4) How often do you come out here?

- ☐ this is the first time
- ☐ every now and then
- ☐ 1-2 times a week
- ☐ daily
- ☐ many times a day

5) What is your favorite thing about this place?

6) What do you generally do out here?
(check as many as you'd like)

- ☐ sit and wait (for a friend or appointment)
- ☐ sit and relax (read, smoke, coffee time)
- ☐ sit and talk with friend(s) or coworker(s)
- ☐ attend/hold work meetings
- ☐ visit with a patient (sit, walk, stroll)
- ☐ pass through on my way to another building
- ☐ come out for a walk (not on way to another building)
- ☐ let my children run and play
- ☐ outdoor therapy
- ☐ tend to your plants/garden
- ☐ eat
other _____

7) When you come out here, how long do generally stay? (give as many answers, depending on your activity)

- ☐ just a couple of minutes
- ☐ 5-10 minutes
- ☐ 10-30 minutes
- ☐ more than 30 minutes

8) Is there anything that prevents you from coming out here as much as you would like?

9) If you could change or add anything out here, what would it be?

10) Do you feel any different after you've spent time outdoors or in the garden?

11) What specific characteristics or qualities of this place help you to feel _____?
(fill in your answer to question #10)

12) Is there anything else you would like to tell me about St. Michael's outdoors/gardens, or how you feel when you are out here?

Thank you very much for your time and cooperation!!! Have a wonderful day!!

APPENDIX C: TAPE RECORDED INTERVIEWS

Interview with Sandra Griffith, RN, OCN, Manager of Christus St. Michael W. Temple Webber Cancer Center

L=Leigh LaFargue, Interviewer

S=Sandra Griffith, Interviewee

L: Hi, please tell us who you are.

S: Sandra Griffith, Manager of the Cancer Center at Christus St. Michael.

L: Sandra, where are you from?

S: Originally from San Antonio, I spent thirty years in Dallas, and I've been here for five years.

L: Okay, where did you go to college and what was your degree?

S: I went to college in Dallas and my degree is in nursing.

L: What is your title here?

S: I am the manager of the cancer center, nurse manager.

L: What do you do for your job?

S: I supervise both the radiation therapy and chemotherapy departments.

L: Do you or our staff, your nurses, use nature as a part of your therapy and in what ways?

S: Well, our chemotherapy side is set up so that all of our chemotherapy patients have a view of the outside pond and the garden area and it is very calming and relaxing and so all of those patients have that. Our patients that come to the radiation side have two large areas that they see as they are walking through.

L: Can you discuss the importance of the human connection to nature in terms of healing? Do you feel that it is important?

S: I feel like it is real important. I feel that patients do better and heal, and actually the medicine works better if they're exposed to nature and if they actually have peaceful and calming surroundings.

L: How do you think of the St. Michael campus, do you think of it as a garden and what feelings are evoked when you walk outside?

S: Well, it is a beautiful campus and when I get here in the mornings and just coming into work you know it just starts my whole day off with a calm and pleasant feeling and I can just look around and say “Wow, this is so neat” and you hear the water running and just the waterfall outside the door and it’s just beautiful and it kind of just sets your whole day off with a nice pace. Then I go out several times during the day and you know whenever I just feel real tense and frustrated and everything’s just going crazy you can just walk out there for 5 or 10 minutes and get rejuvenated.

L: So, you can say that you use the grounds for therapeutic reasons?

S: Right.

L: Absolutely! Is there another hospital that you’ve worked at that did not have this type of campus and do you notice the difference?

S: I worked at Baylor Medical Center in Dallas and there every patient room opened up to a wall and a window of another patient area. The grounds probably started out a hundred years ago trying to be aesthetic and they’ve probably tried as much as they could, but when you look over the campus there, it’s very cold, austere, squared, and not much area for any kind of landscaping or beauty or fountains.

L: So you feel that this campus is an amenity, and y’all are very lucky?

S: Oh, we’re just truly blessed to have a campus like this.

L: Do you feel that there is a strong indoor outdoor connection here at St. Michael?

S: Absolutely. Everywhere you go, even up on the patients’ floors, there are large areas where they can look out and see the trees and the seasons here are beautiful.

L: Do you find access to the hospital grounds convenient?

S: Absolutely, when you go for lunch you can sit out in the solarium outside and eat your lunch or go out by the fish pond. It’s just really nice and easily accessible.

L: Well great. Thank you for your time, Sandra.

Interview with Kristi Rountree, Daytime Occupational Therapist at Christus St. Michael Rehabilitation Hospital

L=Leigh LaFargue, Interviewer

R=Kristi Rountree, Interviewee

L: Hi, what is your name?

K: My name is Kristi Rountree

L: Where are you from?

K: I'm from Texarkana

L: Okay, where did you go to college and what was your degree?

K: I went to Mislip's College in Jackson, Mississippi and I have a bachelors of science and then I went to Texas Women's University in Dallas and got masters of occupational therapy.

L: So you ever use nature as a part of your therapy and in what ways?

K: All the time, I use gardening with the patients to build up endurance, to build up standing tolerance, and activity tolerance. It is very motivating for a patient. I also make it a goal. If a patient comes in and their personal goal is to get back into their garden, then that's what I'm going to work on. It's going to be very 'activity-of-daily-living' based and real. Also, whenever we grow stuff from our garden we take it in and we cook with it. We make pickles, we've done cucumber salads, and whenever the gourds get ready, we're going to make bird houses! Oh, all the time we go outside. Last Christmas we went outside and bought pine cones and all kinds of stuff, I can't remember what else we got but then we painted them and decorated our Christmas tree with them. So we're always doing stuff like that.

L: That's neat. Can you discuss the importance of the human connection to nature in terms of healing and do you feel that it is important?

K: Oh definitely, and you can just see a change in a patient when they are outside. Being in here, it's cold, it's hectic. But whenever you get someone outside, even with someone who has had a stroke, you know, they might have a lot of tone; you can just see them relax. In a more natural spot they become more comfortable. They become more motivated and more willing to challenge themselves. I don't know if it's their environment or how they feel, how they perceive, but I think it's strong.

L: So you can physically see a difference in their body language?

K: In their body language, and their attitude, it's just remarkable

L: In your training as a therapist, was using nature as a way of healing ever introduced or touched upon in your training?

K: No, not in any of my training.

L: Ok, so when you came here, did you just start using the outdoors? Is this your first job?

K: Yeah.

L: Do you think if you didn't have these facilities or if you didn't work here, if you worked at a different hospital that didn't have an outdoor area at all, do you think that you would find yourself trying to find ways to bring your patients outside?

K: I think so, because I think that the gardening aspect is just so great. It's so fun and it's, there are just 500 things that you can improve on just doing that and it make the day go by fast if you're doing something fun.

L: The St. Michael campus in general, what feelings are evoked when you walk outside?

K: I love to drive through the campus. It's gorgeous. You can really see how it's lit up during Christmas because they light up all the trees, I mean, it's just gorgeous. I'm very proud of it as an employee.

L: Y'all are very lucky. Who would you say uses the hospital grounds the most? Do you think patients and staff use it about the same?

K: Yes, definitely patients and staff, because a lot of people eat out in our little courtyard. The patients love any second they have to take little breaks out there.

L: How often would you say you use the hospital grounds?

K: Daily.

L: Any you use them for therapy?

K: Also watering and sitting.

L: Do you or any of the therapists use the greenhouse that you have?

K: Yes, I've taken patients in there, it has good support for them to help steady themselves, you know, while you're potting and doing things like that. We've also cleaned out there, we water out there and stuff like that.

L: What type of impact would you say the hospital grounds have on you?

K: It makes me really appreciate my job, I mean, it really does, being able to treat patients with functional modalities, you know, going out and gardening or coming in and cooking. Having that all right here and seeing something start from a seed and end up just pleasing so many people at lunch, I mean, it's just this, it's great, it would never happen without that area. We're also trying to start a compost pile.

L: Awesome.

K: Stuff like that, so we can start making our own soil.

L: So it's educational at the same time.

K: Oh! I don't garden, this is my first year.

L: So you are learning a ton?

K: Yes, I'm learning everything and it's so great to learn from these experienced patients, you know, and they like to tell—I tell them what to do all the time—They love to tell me what to do.

L: They get to switch it around?

K: So that becomes motivating for them. I'm so glad that—I love my job and it's because we get to go out and have fun in the dirt.

L: So, you think the impact the grounds have on the patients is just as positive?

K: Oh, they want to come back. I took someone out there for the first time yesterday and she went home and told her daughter and her daughter was so excited, so we went out again today and I mean, you know, um, and everyday--I'm day rehab: outpatient, so I've got my own group, but whenever I'm out there, people see me and they stop me: 'Can I come out there with you?' Inpatients!

L: Really?

K: So, I mean, people want to get out there and they want to do things and it's, um, they love, patients love it, they want to come back, you know, they get so excited for the next treatment.

L: Really, do they start thinking that things are their own, you know, it's their stuff?

K: Oh yea, it's *their* garden.

L: They want to make sure everything is kept up?

K: Yes, we discharged a patient a couple of months ago and all those elephant ears, all that stuff he planted and he was so possessive about it, but, it was good, because in the beginning when I started treating him, we couldn't find a connection, but through gardening, we found a connection. We worked on all of his goals through gardening because that's a passion. So, I mean, there are so many aspects. You could do it to make a connection with someone or you could use it if a person needs to return home and garden, or it's a way if I want to increase their standing balance, I can get out their strength.

L: Strength and mobility?

K: All that good stuff, so it's so multi-faceted, how much you can use it. I know I just went of the subject--

L: No, no, no, that's perfect, exactly what I need. Okay, do you feel that there is a strong indoor outdoor connection to the outside?

K: Yes, all the windows around the gym, um, it's almost like it's just one big room, the therapy gym and the outside area. Also, whenever you're walking down the halls, you just feel connected to the gardens.

L: So you obviously find access to outside very convenient?

K: Oh yes definitely. I kind of just wish we had a bigger courtyard because we could set up some horseshoes and croquette.

L: Instead of people just sitting inside in the A/C?

K: Oh yea, that's what we're probably going to do in October, in the area by the parking lot we're going to set up croquette and stuff like that.

L: Awesome. And you talked about how you've never gardened or anything..

K: I've never, I've had, you now, plants and stuff like that but they died. Now I have my own little garden at home. I love it, I get into it so much, I've got tomatoes and cantaloupes.

L: So you brought all of this home?

K: Oh yeah, I just started in, I guess, March.

L: So you're keeping all of your stuff alive now?

K: Oh yeah! I've got big giant cantaloupes and good homegrown tomatoes.

L: It's nice, like you were saying, to start something from seed and everyday you can see what it's done, the changes it's been through and how it grows, and that's the life cycle too. And when it dies, you part with it.

K: And the frustration with the bugs! It's just so great to have this wealth of knowledge here with all these patients who have each gardened for thousands of years. So I ask them. It's rewarding for me. Not only is it rewarding for them but it's rewarding for me—I'm just gaining all of this knowledge.

L: And you're giving them the opportunity to be a teacher in a sense, so that's gotta be rewarding for them?

K: And also to increase their independence and confidence.

L: Great. Thanks so much, Kristi.

VITA

Leigh Elaine LaFargue was born on October 8, 1974, in Lake Charles, Louisiana. She is the middle child of Phillip and Mable LaFargue. She graduated from high school in 1992 from St. Louis High School. From 1995 to 1999 she attended Louisiana State University and graduated with a bachelor of music education degree holding a specialization in vocal teaching. After becoming a Louisiana Certified Music Teacher, she further received nine hours of master's credit in *Kodaly*, a Hungarian method of teaching music. Leigh was an elementary music teacher in the East Baton Rouge Parish public school system for the 1999-2000 academic school year.

However, no longer desiring to teach in the public school system, she began to pursue her interests of music, art, social sciences, and plants by enrolling in the Master of Landscape Architecture program at LSU in the fall of 2000. Leigh completed the requirements for a degree of Master of Landscape Architecture in December, 2004.

Leigh has future plans of becoming a licensed landscape architect in the state of Louisiana, then working in one of her varied fields of interests that include therapeutic garden design, coastal preservation, or urban design and planning.