



Hospital Campus Gardens & Therapeutic Spaces

Healing Gardens and Therapeutic Spaces for patients, staff, and visitors.

Master's Thesis Proposal & Research | Alicia Lynn Yokom | Landscape Architecture 771

Nature in a Medical Setting

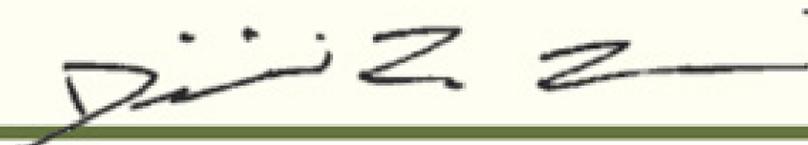
Healing Gardens and Therapeutic Space for patients, staff and visitors of the Great Plains Region hospitals.

In partial fulfillment of the requirements for the Degree of Masters of Landscape Architecture

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The Abstract:

The Great Plains Region in the United States has over 3,000 hospitals and clinics. Many lacking the outdoor amenities useful to individuals year-round. This study will focus on placing those amenities at the Sanford Medical Center in Fargo ND, newly constructed in 2017.

Healing Gardens and Therapeutic Spaces are elements that help promote health yet are rarely built in the upper Midwest because of seasonal interest. From May to September, the weather is ideal but from October to April the cold temperatures, strong winds, flooding, and snow become an issue. An opportunity within constraint arises when designing for seasonal interest year-round through research-based design. “Visibility, accessibility, familiarity, quietness, comfort, and unambiguously positive art” are the guiding principles put forward by Clare Cooper Marcus in *Healing Gardens in Hospitals* for generating successful healing gardens and therapeutic spaces.

With those guidelines, I can ask: What are the central needs and concerns for the outdoor environment in a medical setting? What is desired by staff, patients, and visitors in a healing garden space? Why has this not been further explored and promoted in the Fargo area?

The Sanford Medical Center serves as a medical hub for a population about 200,000, that includes the City of Fargo, West Fargo, Horace, plus the smaller surrounding towns. Being a level one adult trauma/emergency center, specializing in family birth, children’s hospital, brain and spinal surgery, heart surgery, interventional cardiology, and general surgery, gives more than enough reason to implement a place of de-stressing and quietness to the property. To obtain the highest priority elements for a healing garden and therapeutic space, a user-preference survey was provided to staff and visitors on the topics of rooftop gardens, open lawn space, types of vegetation, path usage, gardening opportunities, and more. The whole design concept for this project is so that the users have a place they want to go to, because they had a say in every aspect of it, which helps take off some of the stress, gives distraction from illness, and provides comfort through familiarity. In addition, the survey helped provide measurability to the research conducted. The project site visit will show the measurable opportunities for desired elements.

Case studies, books, articles, and previous thesis proposals are influential in showing how, why, where, and when this has been done in the past. The successes and guidance of the topics mentioned in those literatures is key.

The Narrative:

Having a personal experience with how nature can effect ones mood as a terminally ill patient, my father, and seeing that ,even though, it did not cure his illness, but the clean rooftops he saw out of his hospital room window or the multiple well maintained gardens at the entrance changed how he felt is what drew me to this topic.

Fargo, North Dakota is known for its farmland, prairies, and up in coming downtown but something that hasn't been a valued asset is healing spaces, therapeutic spaces, especially healing gardens. The large construction of the Sanford Health Medical Center in Fargo has opened up much opportunity for those elements to be implemented in and around the hospital itself. With the perimeter context of large parking lots, hotels, and a large vacant lot to the east can be incorporated as well so that not only are the patients being thought of, but also the staff that have to use these areas every day and visitors coming to see loved ones, sometimes at long lengths.

I want to provide a feeling of walkability, sociability, familiarity, comfort, and quietness that will be a positive impact on anyone who has to go to the hospital, keep their minds off their illness for just enough time that in turn it will help their health. This can also benefit the hospital as it will provide places for any staff member to go and enjoy whether that be on a rooftop garden, an outdoor eating area, quiet space in the garden to work with patients or rest between their shifts, boosting employee satisfaction, creating more jobs in the maintenance division for the grounds, and so much more.

The main issues with this topic is the winter weather of the Mid-West. How to create these spaces indoors as well as outdoors as to keep the emotional impact and experience year-round, keeping nature at the forefront. This will be addressed through case study research and feed back from the user-preference survey given to the staff and visitors.



The Plan for Proceeding:

Definition of Research Direction:

The research for this thesis will be conducted by providing a user preference survey to staff and visitors of the Sanford Medical Center in Fargo, ND. The survey answers the preferences the users have on healing gardens and therapeutic spaces which then dictates the design elements. Through the use of case studies, a basis where one should start, what to look for in a site and designing for the user, will be more evident. Using native plantings, a variety of plantings and materials, water features, walking paths, open lawns, sheltered courtyards and or promoting entrances/exits from the buildings will all be enhanced by the research findings.

Plan for Design Methodology:

The methodology for the research portion for the thesis is a mixed method research that includes descriptive/comparative case studies, typological research, historical analysis, and questionnaire survey. Through all of the information gathered from these sources I will be able to select designable areas on the property that fall under the criteria of existing site conditions such as: amount of designable green space, proximity to the buildings, utilities, entrances and exits, emergency locations and avenues, views from inside the building, circulation connection to existing walkways and paths, location based on seasonal sun and shade analysis, wind direction, drainage of precipitation, and more.

This information has been gathered personally through said sources, but the questionnaire survey will give the user preference aspect on how or what they want in the healing gardens and therapeutic spaces. The categories covered for that method are plant structure, texture, color, smell, size, and type that can be stand alone or put into clusters, ground coverings, greenways giving connection to the amenities off the property. The reasoning behind the questionnaire survey is to not assume what any of the users would want to experience in the spaces designed for them.

Plan for Documentation:

Once the research and design process is completed, there will be a presentation, digitally and physically, on presentation boards and thesis bookelt that display all of the information gathered and creations made throught the span of the thesis project.

All information will be properly cited such as pictures, literature quotes and readings, website pictures and information, and any other sources obtained to present this thesis to the public.

The

Research



The Project Typology:

Built Environment

Atriums, Courtyards, and Rooftop Gardens

Connected Community

Pedestrian Corridor, Plazas, Public Green Spaces, and Active Recreation

Therapeutic Landscape

Paths, Informal Trails, Passive Recreation, and Gardens

The Typological Research:

Considerations:

1. Location Comparison: Outside of the Great Plains Region, Outside the United States
2. Site Context: Mixed-Use, Utilized Green Space
3. Typology: Hospital or Medical Facility, Large scale, Multi-locational
4. Impact: Successful Purpose, Present Employ, Historic Cause

Case Studies:

Mayo Clinic, Rochester, MN

The Maggie's Keswick Jenks Cancer Caring Centre, Edinburgh, UK

Horatio's Gardens, Salisbury, UK

Mayo Clinic, Rochester, MN:

Typology: Medical Facilities, Healing and Therapeutic Space

Location: Mayo Clinic, Rochester, MN

Designer: Franklin Ellerbe

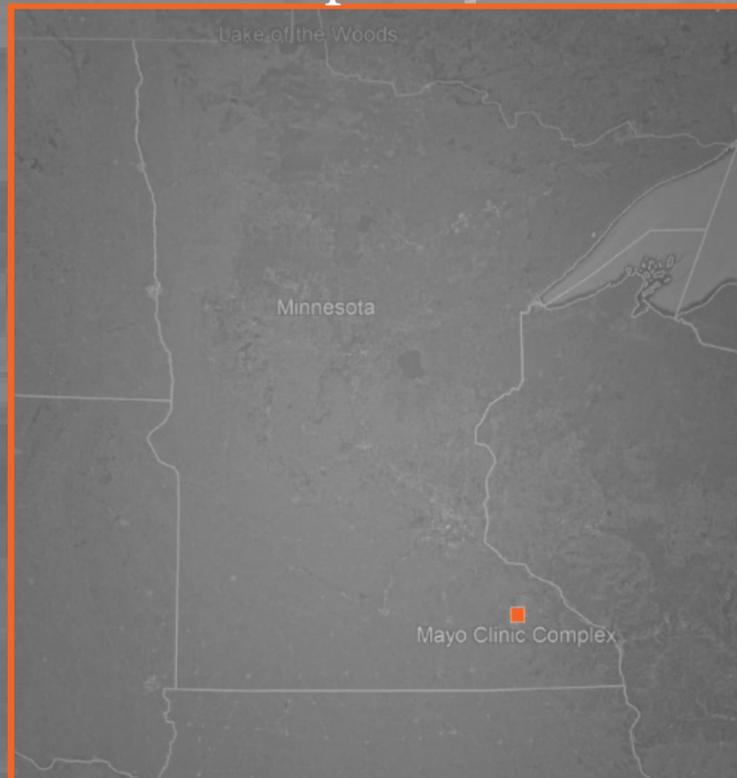
Architect: Ellerbe & Co.

Status: Completed 1919

Program Elements: Multiple Hospitals, Medical Facilities,
Campuses, and landscaped outdoor areas



Context Map:



Immigrating from other countries to the U.S. at separate times, not acquaintances, William Worrall Mayo and Mother Alfred Moes found each other in Rochester, MN around 1864 to 1889. They decided that after a successful temporary hospital was erected to help the victims of the tornado, that working together, with William's two sons and Mother Alfred's sisters, would be very beneficial for the city of Rochester. Their method would be to work in "...teams of specialists who place the needs of the patient first (Mayo. 2001-2019)." In 1919, the Mayo Clinic was officially born, being a non-profit was able to become a nation-wide name within thirty years that would be "dedicated to excellence in patient care, research, and education (Mayo. 2001-2019)." The mission of the Mayo Clinic is as stated above, their first and foremost value is that of the patient, and they strive to encourage all members to have respect, integrity, compassion, health, teamworking skills, innovative excellence, and to be a steward to that mission. With many locations and campuses in Rochester, MN, there are many gardens, therapeutic spaces, and iconic bronze statues placed amongst the area.

Maggie Keswick Jenks Cancer Caring Centre Edinburgh, UK

Typology: Therapeutic Space, Healing Garden

Location: Maggie's Centre - Western General Hospital, Edinburgh, UK

Designer: Maggie Keswick Jenks

Architect: Richard Murphy

Status: Completed in 1996

Program Elements: Renovated Stable Building, Gardens



Western General Hospital

Context Map:



From 1988 to 1996, a woman named Maggie Keswick Jenks struggled through breast cancer. After going through the ordeal three times, the cancer being the cause of death, she spent much time at the Western General Hospital in Edinburgh, UK. There with her husband and two children, she would endure chemo-therapy, lose of both breasts, and in all that time she decided to write. A View from the Front Line would describe her struggle which in turn became inspiration for something that she and others going through her struggles could enjoy. Maggie's Centre was to be the name for locations that were designed by Maggie herself to help other cancer patients in ways the regular hospitals they would frequent wouldn't. "It would offer information, psychological support, advice on nutrition, exercise, and relaxation therapies (VftFL, Maggie)." With the help of Richard Murphy, project architect, a location for the first centre was picked at West General Hospital. A small stable like building on the grounds that was far enough from the main drag of the hospital but not too far that the patients needing to use the new space couldn't reach the hospital within reason. The structure itself would be revitalized to be safe and resourceful in its new purpose and would have parking, surrounding healing gardens, and more that maggie's husband would help design after Maggie's passing.

Horatio's Gardens, Salisbury, UK

Typology: Therapeutic Space, Healing Gardens

Location: Horatio's Gardens, Salisbury, UK

Designer: Cleve West

Architect: Unknown

Status: Completed in 2012



Context Map:



In 2011 a tragedy would end up turning into something very beneficial to many people. Horatio Chapple and his father David wanted to give back to their community by volunteering while Horatio was young. Once done with school, the two came up with the idea to create a garden for the spinal treatment centre they volunteered at to help the connection between nature and healing. They chose the Salisbury Hospital to house the garden and gave out a questionnaire to get the best preferences from their potential users. Sadly, at the age of 17, Horatio passed away from a polar bear accident, leaving his father to continue the project that has grown over the eight years. In 2012 the first garden opened, designed by Cleve West, in Salisbury called Hortatio's Gardens. These gardens would be located in Salisbury, Scotland, Stoke Mandeville, Oswestry, London, and Cardiff. All of the gardens were created to promote the healing powers of nature to the patients, staff, volunteers, and visitors of the spinal treatment centres.

The Typological Research Summary:

Case Studies:

Mayo Clinic, Rochester, MN

The Maggie Keswick Jenks' Cancer Caring Centre, Edinburgh, UK

Horatio's Gardens, Salisbury, UK

The Patient come first.

Maggie's Centres, Mayo Clinic, and Horatio's Gardens want the experience of their facilities to be one that anyone who enters them will not forget. The staff and facility si there to provide for patient and visitors in everyway they can to provide the best care.

The Needs, the Wants, the Opinions of the patients matter.

The facilities were all designed and started with the patients in mind. What is needed to provide the best care? What is comforting, familiar, and relaxing that will help the healing process? Both provide the essentials for care but also in their inclusion of the outdoor environment.

The Success of the centre, hospital, and garden is Essential.

In order to provide, the facilities need to be sustainable, to last a very long time. Offering every specialty, options, and information they can is the most important to keep their patients at the forefront of their mission.

Everyone is Family.

The people who work in the centres, hospitals, and gardens only want the best for their patients and in that sense of respect, care, the dynamic of those atmospheres becomes a family one. One will always have someone in their corner when having illness can be serious, scary, and completely out of the norm or it can be one of rejoicing, relieving, and reviving.

Title: Design Guidelines for Effective Hospice Gardens - Using Japanese Garden Principles

No Subtitle

Author: Charles King Sadler

Literature Form: Thesis – Master’s of Landscape Architecture

Pg. Count = 32



Brief Abstract on Literature:

Charles King Sadler’s thesis is on the creation of garden design guidelines through the use of Japanese garden and architectural principles. The purpose behind the project is to create a restorative hospice garden in Syracuse, New York at the Francis House. Hospice Gardens, Japanese Gardens, and Sukiya Architecture are the driving forces that become the pillars to the project design and research of superior restorative hospice gardens with the thesis question of: Can Japanese garden/architectural principles be applied in conjunction with existing hospice garden guidelines, to create a more effective restorative hospice garden?

The Topics Covered:

This literature is broken down into categories of: Hospice Gardens, Japanese Gardens, Principles of Restoration, Healthcare Garden Design, Sukiya Architecture, Case Studies, Site Inventory and Analysis and the Conclusion. All these elements help enforce Charles thesis and will be briefly mentioned and explained, starting with Hospice Gardens.

Hospice gardens are to be considered a safe and protected refuge surrounding the hospice residence and provides views indoors and outdoors to invite year-round visuals and interest. The Hospice ideal itself started as residential care in the times of the crusades where monasteries of the middle ages would treat the sick or wounded travelers. Fast forward, a movement in the 1960’s in England, specifically London, took that ideal but with the theme of palliative care over curative care. In the 1970’s it spread to the U.S. where in hospice care patients are treated in managing their symptoms and pain for the 6 months or less, they have to live. Today there are over 3,100 residential hospices in the U.S. with the leading disease being that of cancer. With those concepts, hospice gardens have a specific patient group, 6 months to live or less, with specific requirements that need to be nurtured in a safe, welcoming environment, full of vegetation for the users to enjoy.

Japanese gardens have the similar ideals to a hospice garden but are different in the way they bring about the senses, how they are designed for the categories of: being away, fascination, extent, and compatibility. “The sense of being away, fascination, and connectedness to a great whole...”, they interpret the wilderness landscapes, recreating the visual patterns seen in the regional wilderness and implement them into a residential garden design that can be used year-round. The term illusion can be linked to the fascination category as the use of plants, rocks, wildlife, the sky, sun, moon, and water features can transport one’s mind away from their stress, anxiety, and tensions of illness, linking it to the other category of being away. Being away can mean physical travel but also psychological travel, takes one’s mind off the everyday. Extent is the sense of being surrounded by vast nature or wilderness, feeling that the landscape one is in is a part of a greater whole, which can happen from viewing gardens of the Japanese kind or the Hospice. Compatibility is when humans feel at ease and comfortable being themselves with the familiarity of space, a unity of materials and spatial relationships in a natural setting generally and a minimum of distractions or demands like signs, social etiquette to follow or traffic rules to obey.

To create relationships and less demands, one can go deeper into what the other has to say in his thesis on the principles of restoration that can help define spaces within those gardens for physical and mental needs. Restoration is the relief from the mental fatigue or stress. The wilderness or land the gardens mimic or are implemented into that are unaltered by humans, creates a highly restorative experience. A deep spiritual effect, a connection with nature that brings on a sense of peace, tranquility, serenity, contentedness, and even self-acceptance can be said to happen in these spaces and to be able to view this outdoors but also indoors for the frail patients is important to the design but also the health of the users, including not only patients but staff and family members as well.

With how great the restorative care can be in Japanese inspired gardens, there are fall backs as well that Charles mentions with Healthcare garden design. Like hospice care, the healthcare gardens began with medieval monasteries, prescribing herbal remedies from the garden and prayer. When heading into the 20th century, technology advancement has changed the way the medical care is perceived with “cure over care”. This creates a missing link to nature, where healthcare setting is lacking any type of restorative gardens.

Garden design guidelines and principles are the main focus of the thesis, but those gardens tend to be attached to some sort of architecture. Sukiya Architecture can be traced back 400 years and is still used today. The style of the Japanese architecture is a refined and graceful living space that employs elements of the Japanese tea house. Some characteristics of this style include delicate proportions, the ample use of natural materials, the integration of interior and exterior spaces, and a general sense of quite elegance with rustic overtones explained by the author. Using this style as a case study helped Charles find inspiration for other case studies close to home in the U.S. such as Hospicare in Ithaca, NY and Lebanon Community Hospital in Lebanon, OR.

The case study of Hospicare is an 11 acres residential facility in Ithaca, New York. It was founded in the 1990’s where it was the first to be certified as a hospice residence. The property is made up of multiple buildings and three gardens, the front, side, and rear gardens. The original house now houses administrative and other non-profit activities and the other buildings provided for the residence were designed for the patient’s medical needs and kept the large double windows in each room to look out onto the gardens. The gardens were designed by Paula Horrigan, “a local landscape architect and professor at Cornell University.” The author compliments the design of the housing and the gardens as they are very accommodating in their spacious rooms with large windows for viewing the gardens and the elements designed into the landscape such as small pools or ponds, wooded areas, proper seating and pedestrian circulation, and implementation of grade change.

The goal for the Hospicare program is to create a restorative garden that meets the needs of hospice patients, family, and staff. The front garden was created to welcome the users to the site, to create a sense of ease as the plantings lessen the thought of going to another medical facility. Though the views from inside the entrance of the building out onto the gardens that face the street, the use of the space and the vegetation inside creates the connection with health and nature, it welcoming you into itself. The side garden becomes a transition between front, and rear, and has the privacy the front garden doesn’t provide. This can help in giving the users options for privacy or sociability within those spaces. The rear garden is meant to be social with each room looking out onto it for connection purposes, but in turn creates the fish bowl effect with the limited amount of vegetation allotted in the rear garden around the windows. The author gives mention to evergreen varieties to help narrow the focus plan but still give visuals to the ones inside the buildings.

The design guidelines for this case study are details, texture, overhead plane, enclosure, proportions/scale, layout and object relationship, indoor/outdoor relationship, and viewing relationship types. These guidelines can be used for any garden and the author tries to find these in this case study but also compare them to the Japanese garden/architecture guidelines as the previously mentioned seem to be rather open-ended where as the Japanese have a specific way of going about their designs, their focuses. The specificness can help further lead to refinement and sharpness of aesthetic goals which will lead to a more effective restorative experience.

The Lebanon Community Hospital in Lebanon, Oregon, was constructed in 2002 on a quarter acre of land. Designed by Hoichi Kurisu, the gardens were created through the use of environmental behavior research for effective healthcare gardens. This Japanese garden is viewable from the birth center, classrooms, cafeteria hallway and more as the garden surrounds all four sides of the building. The garden includes three waterfalls, evergreen and deciduous trees, walkways for pedestrian circulation, outdoor lighting, a covered patio area, two Japanese styled gazebos, and benches for seating. The difference between this case study and the Hospicare is that it is in a more public setting but creates the spaces its given with more of a garden appeal versus cure of care, they were given more ideals with less space than that of the residential hospice care.

Topics of Focus:

Through the use of native plant materials and recreating patterns one can see in nature can help create a mentally restorative and de-stressing escape in a hospital or medical facility setting. The familiar is a comfort and can be reassuring to the emotionally strained patients and family, where being closer to home or be at home tends to be the main goal. With being in any medical facility though the time to go home isn't always in a timeline everyone likes so to creates spaces they can enjoy while in those facilities is was clare cooper marcus recommends when using unique specimens that add wonder and fascination through gardens and therapeutic spaces. The attraction of wildlife such as birds and butterflies brings life to the spaces not only through sight but also sounds and touch.

Having year-round interest is a requirement for any garden such as these as hospitals are used year-round and in order to keep the connection, the gardens have to be as well. For the individuals sensitive to the cold, heat, or wind, the designs need to be specific and intentional as to have relaxing and peaceful experiences. These spaces can be used for privacy or for large groups where moving or still water from the fountains, ponds, and more let the mind wander and create a sense of calmness. A scroll garden, viewed from a fixed location and is usually framed by an architectural element, that is viewed from inside a residence or porch is something implemented by the Japanese as well where its not just what is in the garden matters but the views from many different angles as well. A stroll garden does the same thing but one moves within those spaces and not just views from afar. The phrase "hide and reveal" helps narrate the pathway for the user as to give it a story, a memory that helps in the healing.

Conclusion:

The author intends to create a garden from "synthesized hospice design guidelines based on hospice garden guidelines, restorative landscape guidelines, Sukiya architecture guidelines, and Japanese scroll/stroll garden guidelines will create a template combines the best of these four areas. The intent is to create a more effective hospice garden through the integration of these four areas." The same can be said for this thesis project, but instead of just the Japanese garden guidelines and their ideals, I will be able to incorporate many others as the project site is a blank slate and the user preference survey will tell me what elements are most desireable. This thesis project is very similar to my own so I will be able to look at this research and apply it to my own as mentioned they are similar, not the same. The Sanford Medical Center Healing Gardens and Therapeutic Spaces will have its own guidelines for design and this will only further back the justification for the project at all.

Title: Urban Design

Subtitle: Health and the Therapeutic Environment

Author: Cliff Moughtin, Kate McMahon Moughtin, & Paola Signoretta

Literature Form: Book

Pg. Count = 273



Brief Abstract on Literature:

In the book *Urban Design: Health and the Therapeutic Environment*, Part 3 is on “Design for the Therapeutic Environment” that is broken down into the last four chapters of the book. Chapter 11 specifically talks about “The Bioregion”, a proposal for a sustainable landscape that promotes health to the population of Britain. The chapter goes on to talk about how in the authors’ eyes, the bioregion is the ideal space to protect and care for a natural environment while encouraging human interaction throughout that said region.

The Topics Covered:

In the literature are the connection between humanity and nature, the reintegration of culture with nature, ecoregionalism, the concepts of bioregions, and a sustainable development in Italy. The authors’ go into great detail on these topics but for a short preview on them all we will begin with the connection between humanity and nature. In the beginning of this section the relationship of the two is introduced as ideal “...that the health and well being of a population is partly dependent upon the communities intimate and immediate connection to a healthy and natural environment.” It continues on that through climate change there are going to be changes to natural and built environments, meaning it is crucial to keep them connected as to help protect the environment when possible. The term “parasitical” is used many times when bringing up the city in that if the city and the people show disease, everything can easily become infected, and the landscape tends to make that majorly known. A “Healthy city is the Natural city” can be quoted from an early theoretical writer named Mumford.

“There is no separation between the culture of the city and the nature in or around it.” Lewis Mumford was known as an American historian, sociologist, philosopher of technology, and literary critic, but mostly as a writer. Throughout this chapter he talks about the bioregion and the city as a reintegration of culture with nature. He calls it “ecoregionalism” which means to bring back the regional hinterland into the city, hinterland meaning an area unknown to humans, an area beyond the visible such as a coastal district or a river’s bank as an example. He and other writers also mentioned in the text bring to attention the issue with all of the developments of buildings, structures, the city versus the natural boundaries, that mankind has been foolish in

This finally leads into the specific talkings about the bioregion, what it is, why is it important, and the levels of the natural environment that not only make up the bioregion but what those are, what categories define them, and how they interplay with the case study of the sustainable development in Italy. Bioregion is defined as a region defined by characteristics of the natural environment rather than by man-made divisions. An example would be such as a desert or a rainforest known to have specific climates. The many categories that this region is in is made up of ecoregion, ecodomain, bioregion, landscape, and patch. This is broken down from the largest to the smallest of areas being that ecodomain is made up of the global biosphere and the inter-continental areas where a patch is that of an ecosystem component. The word is bioregion, regional landscapes, has many other names associated within the text from bioregion, biome, bioregionalism, leading to the concepts of bioregions through a movement that considers conservation of natural resources and decentralized socioeconomic systems as the main tools to achieve a sustainable development, such as a project done by the Italian Territorialist School in the Province of Prato, Italy.

The whole idea behind the project of a sustainable development by the school is to “reconnect individuals with the local place, such that geographically, physically, socially, economically, and emotionally they form a vital and interdependent relationship.” Their program is very similar to the ideals of Mumford and the other writers in that the connection between city and nature is a must, keep the unhealthy aspects out but encourage to keep the outer world in, solidifying that connection. To maintain a delicate balance between the human population and its supporting environment.

The sustainable development put forth by the multidisciplinary group from the school brings the idea of ‘local self-sustainable development’ as a way to achieve sustainability.

Topics of focus:

I was able to find a connection with through the project of Healing Gardens and Therapeutic Spaces and the content of this chapter is bioregionalism, bioregions, and bioregional planning. The definition of a bioregion is “geographic areas having common characteristics of soil, watersheds, climate, and native plants and animals that exist within the whole planetary biosphere as unique and intrinsic contributive parts”, that is essentially made up of complex geographic, economic and cultural elements. Though the project of Healing Gardens and Therapeutic Spaces isn’t on the large scale as the bioregion seems to be there are similarities in the characteristics that my project needs to have in order to be successful in the connecting of the site to nature and nature to the users. Bioregionalism is concerned with creating a society that will maintain its environment as a congenial and pleasant place to live in now and in the future. The end goal of the work can be said for that of the project in that the use of gardens, landscapes, natural environments are key in keeping the quality of life for humans, wildlife, and the environment itself at a high for now and the future.

Bioregional planning as defined in the text is “the assumption that humans are biological entities and therefore need systems for living that are designed to meet their cultural, economic, and physical needs but in ways that foster symbiotic relationships with complex ecological systems in the bioregion.” The user preference survey, case studies, other literature reviews will in turn inform me on what those needs are when designing the spaces around the Sanford Medical Center. This will in the long run go beyond just the green spaces provided for the medical center but also because of many studies done on the therapeutic value of gardening and the health scale of green areas in cities where bioregional planning comes into play.

Compared to conventional planning, bioregional planning “asserts the pre-eminence of nature: the constraints of the natural environment determine other activities.” In the design for Healing Gardens and Therapeutic Spaces the activities aren’t all just passive like walking, sitting, resting, reading, and such to where there are active ones as well. To keep everyone safe and needs in mind there are activities such as physical therapy, horticultural therapy, yoga, events put on by the hospital and or the community that would be utilized in open lawn areas or ones that are a mixture of both passive and active such as gardening plantings that are edible like blueberries, comfrey, lavender, strawberries, and others depending on the climate.

Conclusion:

In conclusion, “Think globally, act locally” can be said for the case study in the reading and that of the project of Healing Gardens and Therapeutic Spaces. “To achieve a sustainable future by establishing a healthy ecological balance between city and its supporting hinterland, a system of city regions nesting within bioregions having their existence validated by popular mandate.” To have a good project that will help promote the quality of life and health then it needs to be sustainable, to be able to go on longer than most landscapes would. The balance between nature and health, ranging from city to acre-wise, the goal to keep them together not separate can be seen here in the reading and also the project as well. This will benefit the Sanford Medical Center, the surrounding context, the city of Fargo, and every user that is able to come to Fargo, ND for health assistance. Though not every person cares about gardens or what goes in them, a vast majority would use the spaces provided, and enjoy going to a medical facility more if it was not only health helping but aesthetically pleasing as well.

“The sustainable or bio city is one that is in balance with its region, in synergy with its natural environment, an active part of the large ecosystem of which it is a vital component. The regional landscape in which the city is located cannot remain the ‘cinderella’ of political decision-making, the space to be gobbled up for speculative urban development: neither can it remain the province of those vested interests that wish to protect it at all costs.” The main point of the Sanford Medical Hospital to be built is to provide healing through the medicine and doctoral care given through the building and technology. That creates the cure for most illness or injuries. The part that is neglected is the grounds for the Cure and Care, which will be better designed and allotted for in the project of Healing Gardens and Therapeutic Spaces.

The User-Preference Survey:



1.



2.



3.



4.



5.

Question 1: Are you a Staff member or a past/present/future Visitor of Sanford Medical Center in Fargo, ND?

Answer: Staff Member = 3, Visitor = 5

Question 2: What age group do you belong to? What gender do you identify with?

Answer: Age 18-28 = 3, Age 29-39 = 1, Age 40-50 = 1, Age 51-61 = 2, Age 62 & Up = 1

Question 3: Are the hospital grounds of Sanford Medical Center important for you?

Answer: Yes, very important = 4, Yes, some-what important = 6, No, not important = 1

Question 4: Would a healing garden or therapeutic space be an asset to the grounds of the Sanford Medical Center?

Answer: Yes = 9, Maybe = 1, No = 1

Question 5: What do you think is the most pleasing feature of a garden?

Answer: Seeing plants and flowers, the sense of peace and distraction, the option of being outdoors

Question 6: What kind of feelings do you have when you are in a garden setting?

Answer: Positive (tranquility, relaxation), No special feeling

Question 7: What season do you prefer to be outside?

Answer: Spring, Summer, Fall

Question 8: Would you use the gardens/therapeutic spaces if they were made to be used year-round?

Answer: Yes, I would use them all four seasons = 5, Maybe, I wouldn't want to use them in the winter = 5, No only in the summer = 1

Question 9: What activities would you do or like to do when in a garden or outdoor space?

Answer: Having quiet areas to sit, sunbath, or read away from distraction, occupy gathering spaces for events, eating, or spending time with others

Question 10: When you are not engaged in physical therapy or other planned activities at the hospital, how much time would you spend in a garden or outdoor space?

Answer: When I have relatives or friends visiting, allotted time for a meal or short conversation, all my free time

Question 11: What improvements would you make in a new garden compared with the current one?

Answer: Expand and fill in the existing planting beds, create an area with water features, increase the space available for walking, increase seating

Question 12: Would you like it if the grounds of the hospital are connected to the surrounding areas, sidewalks/parking lots connected to hotels, apartments, gas stations, etc....?

Answer: Like a great deal = 5, Like a moderate amount = 4, Like a little = 1, Neither like nor dislike = 1

Question 13: How might a healing garden increase ones quality of life?

Answer: Provides distraction from illness = 9, Creates an enjoyable experience being surrounded by plants = 9, Clean and hygienic characteristics = 6

Question 14: Which materials would be preferable for landscape structures in a garden?

Answer: Structural reinforcement materials (handrails, fencing, etc.) = 5, Mixed Materials (wood, metal, plastics) = 4, Wood = 5

Question 15: What colors remind you or make you think of a Therapeutic environment?

Answer: Greens, blues, yellows, whites

Question 16: How do the common green colors of any garden make you feel?

Answer: Relaxed, connected with nature, refreshed

Question 17: What is your most desired plant species?

Answer: Flowering Plants = 6, Trees = 3, Grasses = 1

Question 18: If you were asked to select plant species in the hospital's healing garden, what factor would be important?

Answer: Flower color and form = 8, Flower and leaf smell = 1, plant size = 1, Branch texture and form = 1

Question 19: What are the most desired plant forms for you?

Answer: Clusters (groupings), Scattered (multiple forms and shapes), Globular (sphere)

Question 20: Please check mark by which image is more desirable.

Answer: Image 1 = 4, Image 2 = 2, Image 3 = 0, Image 4 = 1, Image 5 = 4

Conclusion: The use of different plant materials, structural materials, and landscape elements will help give the users the spaces they would prefer. Water features, privacy and gathering spaces, and more seating will give way to more circulation depending on the location around the hospital. The answers from visitors and staff from the Sanford Medical Center give first person insight onto what should go into the landscape design, with their influence I will be able to create many spaces on the hospital property to give them what they have specified and more.

The Major Project Elements:

Facilitate stress reduction which helps the body to reach a more balanced state.

Help a patient summon up their own inner healing resources.

Help a patient come to terms with an incurable medical condition.

Provide a setting where staff can conduct physical therapy, horticultural therapy, and more.

Provide staff with a needed retreat from the stress of work.

The Activities - Passive and Active:

Viewing garden through window

Sitting outside

Gentle rehabilitation exercises

Taking a stroll

Children playing in a garden

Raised planting bed gardening

Vigorous walking

Sports

Dozing/napping

Meditation/prayer

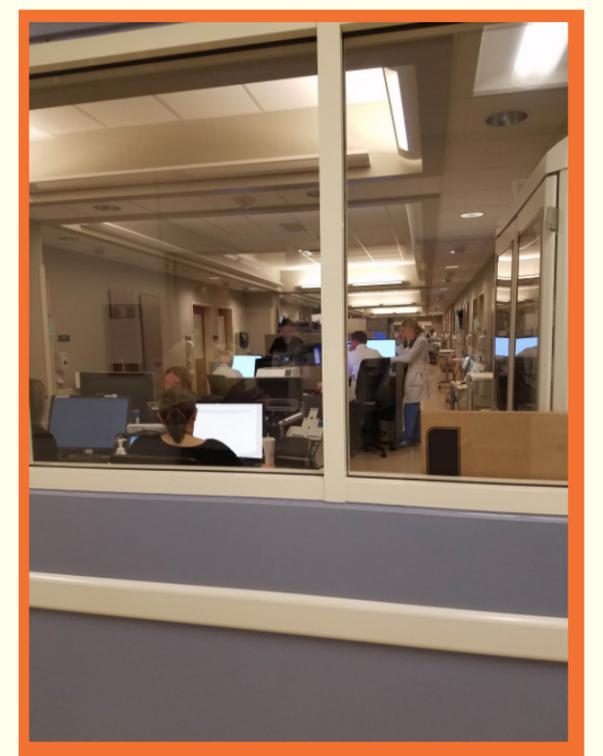
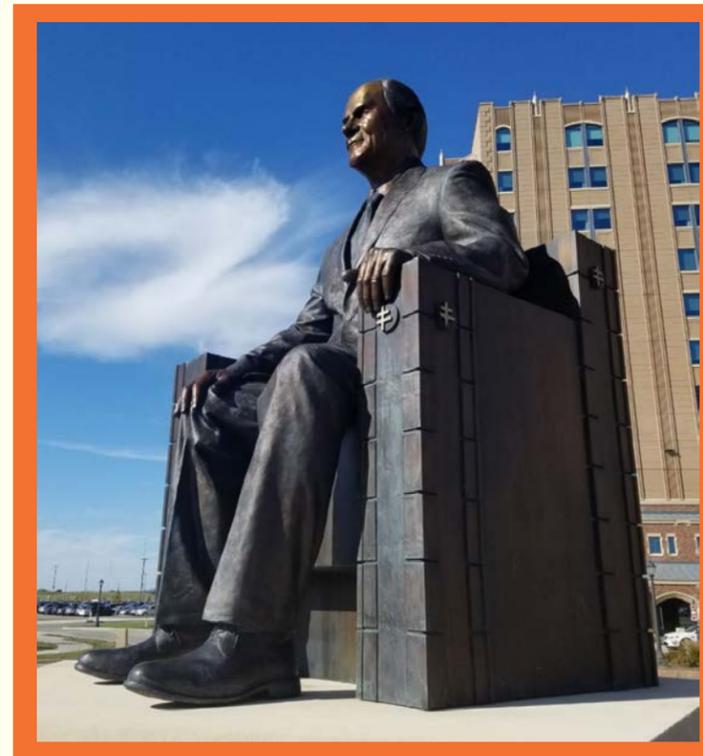
Walking to preferred spot in garden area

Eating/reading/

Doing paperwork/meetings

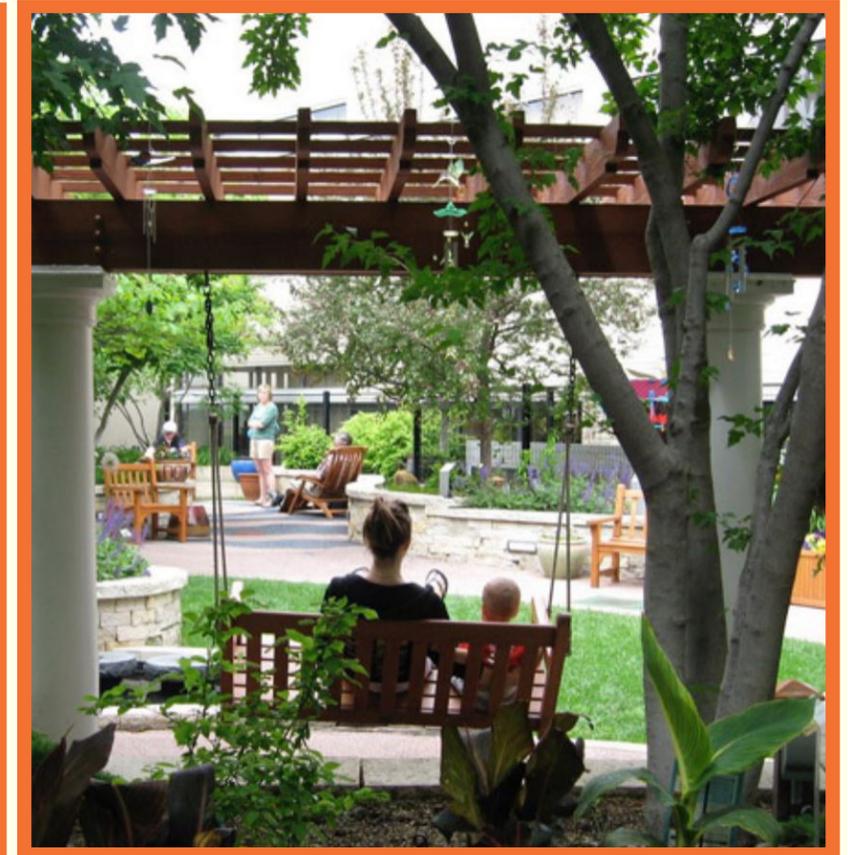
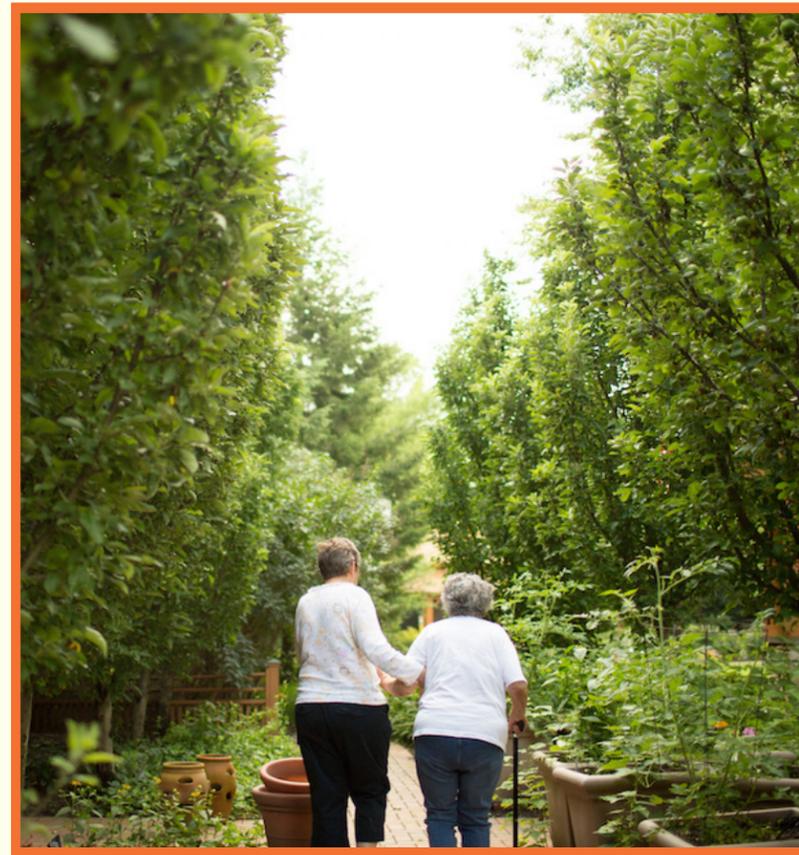
The Client:

The Client for this thesis project is the Sanford Medical Center in Fargo, ND. The design of the Healing Gardens and Therapeutic spaces would be implemented on the hospital's grounds and created specifically for them, but to be a design that could be used for any medical facility. From a few planting beds to multiple garden spaces throughout the property, the benefit would not only be for the users but the hospital itself as this would provide relaxation, comfort, and connection with the outdoors that not every medical facility or hospital has in the Great Plains Region. The design would be based off of case studies, research through inventory and analysis, and user preference survey. The user preference survey was given to the staff and visitors of Sanford Medical Center in Fargo, ND.



The Users:

The Users for this thesis project are the patients, staff, and visitors of the Sanford Medical Center in Fargo, ND. The design would be based off of case studies, research through inventory and analysis, and user preference survey. The user preference survey was given to the staff and visitors of Sanford Medical Center in Fargo, ND. Examples of questions on the survey would be plant choice, color preference, water feature sounds versus local wildlife sounds, etc. This medical facility has many specialities, which means there are many different needs to be met but with the information from the survey, the gardens and therapeutic spaces will be designed exactly for them. Having the spaces be accessible year-round is very important and can give different points of interest.



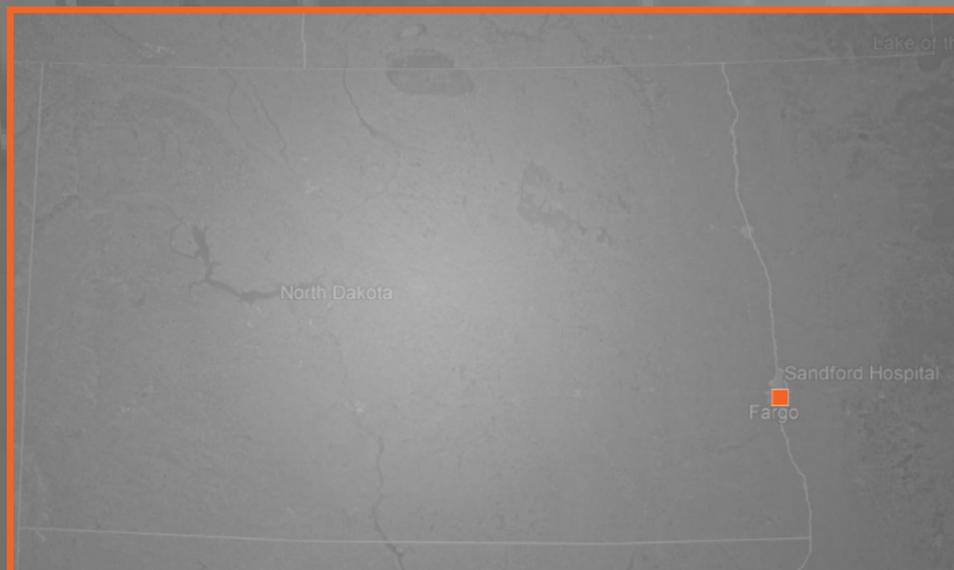


The Site: Sanford Medical Center

Sanford Medical Center is on 23rd Avenue South, Fargo, ND.

This site was chosen because it is the most recently built medical facility within the last 5 years in Fargo that has a very under developed landscape. With plenty of green space and minimal structures/buildings, there is much opportunity to create Healing Gardens and Therapeutic Spaces for everyone that uses the facility everyday.

Close to Instate 94, grocery stores, hotels, residential housing, schools, churches, and many other amenities, the location is ideal to have the proposed landscaping be utilized and connected throughout the area. The idea of creating a complex, inclusion of as many amenities feasible, designed to help those who need to use those said amenities when spending time at the hospital. Healing Gardens and Therapeutic Spaces are top priority but the surrounding context is just as important to have a successful flow of all elements.



History:

This medical facility was built between 2011 and 2016, opening its doors in 2017 to the public, and has exceeded the five year growth plan within the first year of being opened. With about 400 rooms for just patients, there are many people coming and going through the hospital. There is space on each floor allocated for just staff, a short distance from patients rooms as to keep noise levels at a minimum, and break out/quiet spaces for visitors to stay when not in the patients rooms. Over 1,700 pieces of art that decorates the walls on every floor has been either donated or commissioned by artists of the region that help highlight the spaces that let in natural light, creating a calming sense in those intimate break out/quiet spaces. The main building is made up of ten levels, there is a large utility building just the the north west, and a new addition to the main building to the east coming in the near future with the ever growing need to provide. Including the Sanford Medical Center there are 44 medical centers, 482 clinics, and over 200 senior living facilities, with hundreds of thousands of employees nation wide for the Sanford name. The headquarters and base origin of the Sanford Medical centers is in Sioux Falls, SD, started by Thomas Denny Sanford, born in 1935 and still alive today.

Sanford Medical Center - Fargo, ND

Address: 5225 23rd Avenue South, Fargo, ND 58104

Hours of Operation: 24 hours

Scale Total: 39 Acres

Through the Site Inventory and Analysis, we are able to see the scale of the site and of the existing buildings.

Building Footprints: 6 Acres = 6% of Project Site

Though the buildings don't take a large amount of the site, they are still vital to draw in the users for this project. The Sanford Medical Center has many different specialities which brings in many different types of people that need to have all their needs met through the Cure and Care ideals.

Something Fargo, ND is known for is the strong and ever persisting winds and with the hospital just recently being built in 2017, there is no protection from any sort of weather element anywhere on the site. The NorthWest and South South East sides of the building tends to get hit the most with the majority of the seasons in the Great Plains Region tends to be winter. That being the main entrance for employees and the main entrance for the whole hospital, there needs to be action taken to protect the users of the site from either getting sick or injured or even more sick. The use of plantings, outdoor structures, and better pedestrian circulation will help accommodate for this as there needs to be clear paths for emergency vehicles and views, but enough coverage to create therapeutic spaces on the site and be seen from the windows of the 10 story building.

Hardscapes: 21 Acres = 25.6% of Project Site

What makes up the hardscape for this site are the parking lots, parking spaces, sidewalks, crosswalks, bike lanes, bus route, storm water drains and streetlights. All of those combined take up about 21 acres of property, equaling out to 914,760 square feet. Through the Site Inventory and Analysis, we can see that a minority of the site is landscape which is made up of any turf and plantings. Hardscapes are important to the site as for vehicular and pedestrian circulation but when those spaces aren't being used a majority of the days, 24/7, then a re-use of the unused space to be used is an opportunity. With the different types of materials to be used for walking paths there is opportunity to make it more environmentally friendly but still sturdy enough

Landscape: 12 Acres = 14.6% of Project Site

The current landscape on the site covers about 12 acres of property, equaling out to 522,200 square feet. This contains the existing 500 deciduous and evergreen trees, turf, and planting beds outside of the hospital and utility building. Presently the grounds of the property are quite flat with having minor two-foot contours on site. Through the Site Inventory and Analysis, we can see that a majority of the site is hardscape which is made up the existing buildings, roadways, parking lots, and sidewalks. To counter act this with the landscape the goal is to have an increase in percentage. The addition of more plantings along the boundary of the site for protection from the elements and vehicular circulation, along the existing and proposed walkways, and a mixture of sizes for canopy, mid level, and ground cover will all help the site to have a solid connection to nature.

Site Analysis

Property – 39 Acres – 1,680,000 Sq. Ft.

Building Footprint – 6 Acres – 261,360 Sq. Ft.

Main Building – 4.9 Acres

Utility Building – 1.1 Acres

Flat Roof Space – 1.2 Acres

Legend:

Emergency Route ←→

Main Route ←→

Bike Route ←→

Bus Route ←→

←→

←→

←→

←→

The average climate for Fargo, ND can be seen as a chilling high of 16 degrees Fahrenheit in January to a warm high of 81 degrees Fahrenheit in July. Though that seems like a comfortable temperature range for the Upper Midwest Region, the lows can be about -40 degrees Fahrenheit in January to 50 degrees Fahrenheit in July. Precipitation and Daylight hours contribute to the range of climate we face such as on average half to over a foot of snow and rain is recorded each year. The Daylight hours span from about 9 in January up to 16 in July.

These all play a factor in how the soil and plant species react in the Fargo area as a majority of the native soil is clay and the plantings range from prairie grasses, fertile farmland, massing of deciduous trees and sporadic evergreens unless planted specifically in landscapes.

The existing planting beds house trees, shrubs, perennials, and ornamental grasses. Trees that grow quite well in the Upper Midwest that are used in many, if not all, landscapes are Maples, Lindens, Thornless Honey Locusts, Aspens, Birch, Crabapples and for the evergreens it would be varieties of Arborvitae. With the maturity of the plantings taking time in the hospital's landscape, one will be able to distinguish which are being used on the property. Shrubs to be seen on the grounds would be varieties of Spirea, Cotoneaster, Hydrangea or Peony and for evergreens it would be again varieties of Arborvitae. The Perennials and Ornamental Grasses can be a wide range of plantings as with how much space they have to grow on the property but have been specific as for the soil type, climate of Fargo, and the massing of shade the building provides being of 274 ft tall.

Elevations = 2ft Contours - ArcGIS

Soil = 40-60% Clay, >15% Sand

Soil Drainage = Poor to Very Poor

Drainage Locations = Parking Lot - 60 Locations

Plant Species = Deciduous & Evergreen

Ecoregion = Lake Agassiz Plain

Land Cover = Permeability = 85%

Amongst the prairies, farmland, and city, there is also wildlife that roams around the area such as birds, mammals, fish, reptiles and amphibians, and insects. Though we don't get to experience all of them on the Sanford Medical Center property, some that would make an appearance would be:

- Birds: Robin, Woodpecker, Meadowlark, pigeon, Goose, etc.
- Mammals: Rabbits, Squirrels, Voles, etc.
- Fish: None on site
- Reptiles and Amphibians: Garter Snake, Toads, Salamanders, etc.
- Insects: Butterflies, Lady Bugs, Ants, Flies, Bees, etc.

Since the property has been newly constructed within the last four years with minimal established to full maturity plantings there is minimal shelter for wildlife from the weather elements.

Hardscape – 21 Acres – 914,760 Sq. Ft.
 Storm Water Drainage – 60 Visible Locations
 Parking Lot – 22 Acres
 Parking Spaces – 1,560 Spaces
 Sidewalks – 27 Miles – Combined Total
 Crosswalks – 23 Locations
 Bikes Lanes – 1 Lane – Unmarked
 Bus Route – MatBus – Route 24 – D & I
 Streetlights – 49 Light Poles

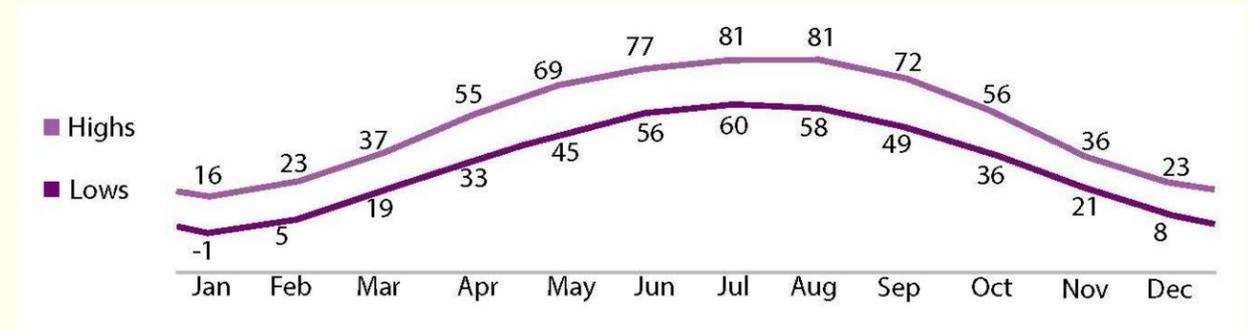
Landscape – 12 Acres – 522,200 Sq. Ft.
 Trees – 500 Deciduous & Evergreen
 Planting Beds – Over 50

Connected Context – 32 Acres – 1,410,880 Sq. Ft.
 Courtyard by Marriott – 116,530 Sq. Ft.
 Bell Bank – 27,860 Sq. Ft.
 Casey's General Store – 27,860 Sq. Ft.
 Tobacco City – 27,860 Sq. Ft.
 McDonald's – 51,260 Sq. Ft.
 Four Points by Sheraton – 118,570 Sq. Ft.
 Central Park Apartments – 616,190 Sq. Ft.
 Amber Ridge Apartments – 254,780 Sq. Ft.
 Country Meadow Apartments – 169,970 Sq. Ft.

Building Information:
 11 Stories – 10 Visible
 1 Million Square ft
 274 ft Tall
 284 Hospital Beds presently
 96 Future addition of beds
 28 Operating Rooms
 10 Shelled Operating rooms for the future
 51 Emergency Department Bays
 3,600 Embeds Exterior Windows

Grounds Information:
 2ft Contours
 Soils: 40-60% Clay

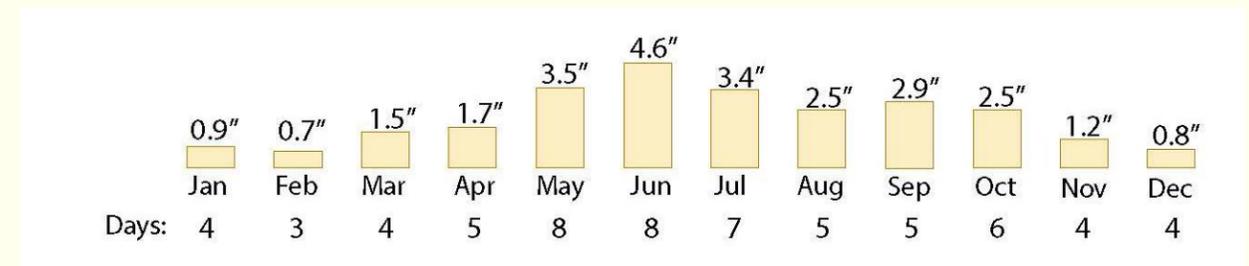
Average Temperatures - Fargo, ND



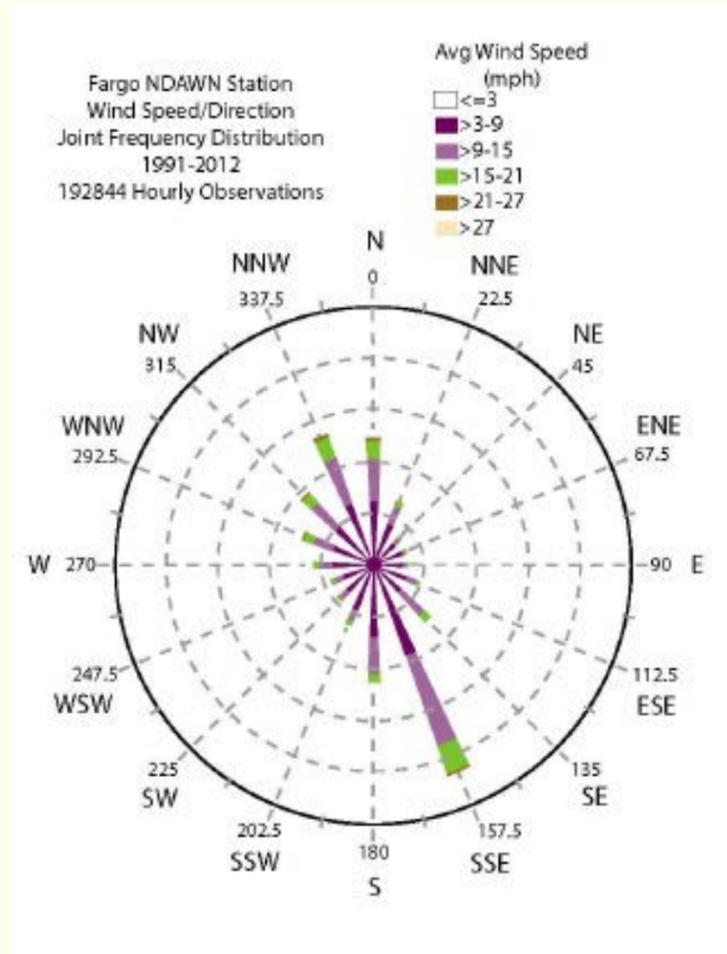
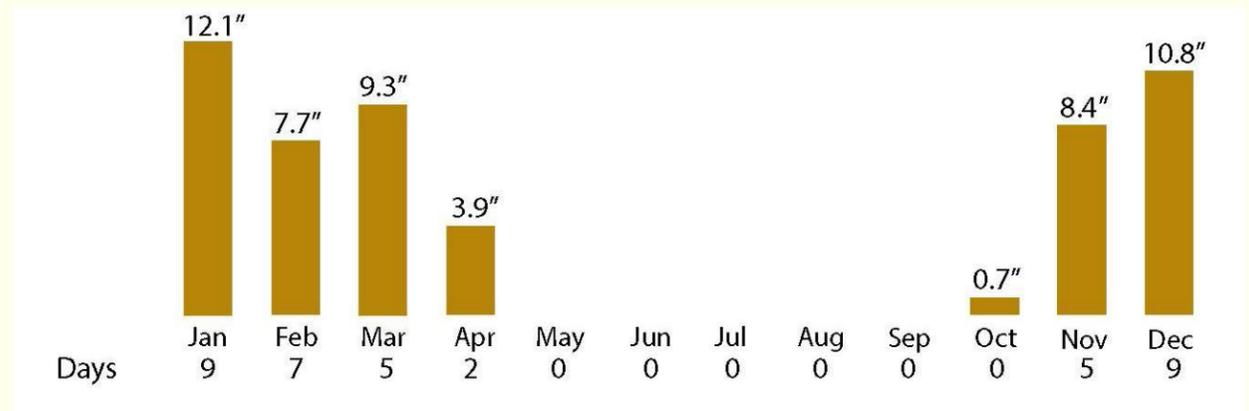
Average Daylight - Fargo, ND



Average Rainfall - Fargo, ND



Average Snowfall - Fargo, ND



The Project Emphasis:

Create opportunities for physical movement and exercise

Physical Therapy, Horticultural Therapy, Walking, Jogging, and Sporting Activities

Provide opportunities to make choices, seek privacy, and experience a sense of control

Options: accessible any time of the day, whether or not to be accompanied, activity, planting materials, function of spaces, locations, privacy versus sociability

Provide a setting in which people are able to gather together and experience social support

Encourage family time, visitors, eating in dining areas inside and out, inclusive outdoor activities, large privacy spaces

Make known accessibility to nature and other positive distractions

Schedule outdoor visit breaks, make any garden or therapeutic space accessible to anyone in medical center, provide shelter to those in need due to illness or weather elements, clear views out windows, and keep the acknowledgement of nature in and outdoors

The Project Goals:

Visibility

All aspects of the property: from inside the building such as entrances and exits, windows from any floor, and direction on any signage around the medical center, surrounding amenities such as streets, apartments, hotels, and the interstate, keep seasonal interest year-round to have the most ideal experiences, and keep pathways clear and clean between spaces.

Accessibility

Any age, any disability, the spaces need to be utilized, from any entrance or exit, seen through any window, and be ADA appropriate.

Familiarity

Creating an outdoor space that feels and may look like home with the use of native plantings, materials, and seating. Create a design that isn't so drastic that it takes away from the purpose of the healing gardens and therapeutic spaces but supports in and how the users want to experience the spaces.

Quietness

Nature that distracts from the noises of people or vehicles, but encourage the sounds of wildlife, water features, and nature, awakening the senses to peaceful and or enjoyable aspects of being in a garden at a medical center.

Comfort

The time of year can dictate one comfortability level but when a space is properly designed to accommodate for that, any garden or therapeutic space can still be a comfortable experience. The construction of outdoor structures, blockage of elements by plantings, and such can provide protection and give privacy when needed.

Positive Distractions

Art pieces, layering of plant materials, activities, gatherings with visitors, being outdoors instead of staying indoors a majority of the hospital stay.

The



rogram



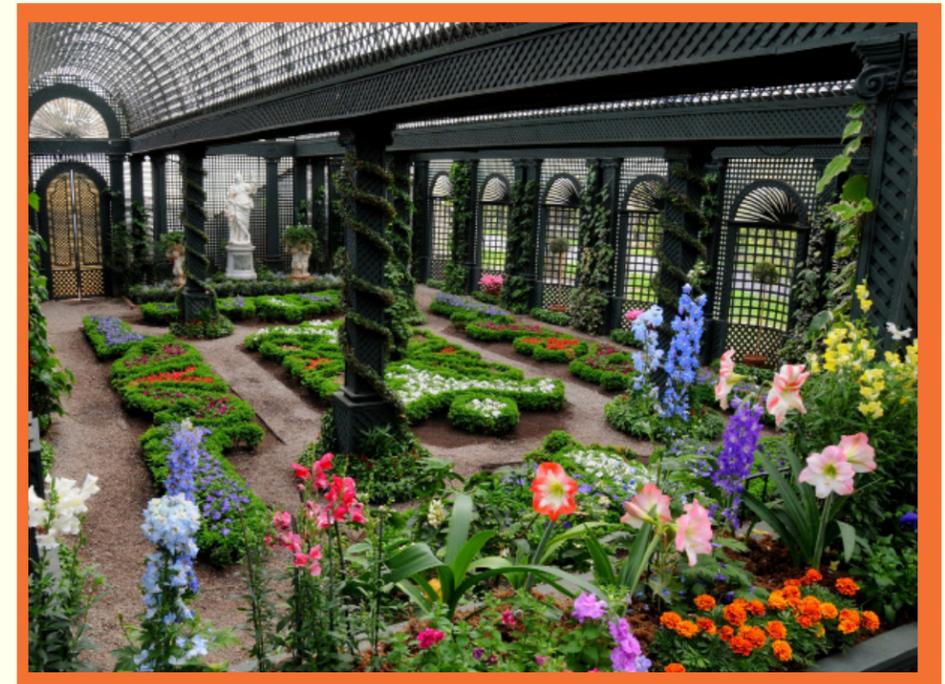
The Historical, Social, and Cultural Context:

Historical Context:

This project relates to similar projects undertaken throughout history as its origin dates back to the middle ages, the times of the crusades where injured travelers would go to monistaries to find sanctuary and healing. There within the grounds would be gardens meant to help create medicines and the like to not only help heal but help restore as there wasn't such an advancement in technology such as today where one would go to the pharmacy and get their medicine in a bottle. Today the Cure versus Care has been the phrase that stands out amongst the healing garden world for there is less and less healing gardens, therapeutic spaces, or the reminders of images or views from inside a medical facility. My project is trying to keep the Care aspect alive as though the average stay for most patients and visitors at the Sanford Medical Center is about 4 days, that doesn't mean those patients don't come back or that the staff that works 24 hours, year-round, don't need a place for relaxation and de-stressing as well.

Social Context:

This project relates to similar projects as there is an up and coming aesthetic to healing gardens and therapeutic spaces within a hospital setting. "...competition for patients, the current reliance on patient satisfaction surveys, the proven correlation between staff satisfaction and patient satisfaction, and the costly issue of staff retention." Many studies have been done that through nature, the increase in quality of healing is much more than that of just medicine alone, and that means being outside in the nature as well versus just seeing it through a window. The social trend of being in a garden can be seen all over the world, but not many are known to be specifically within hospital settings, this being that most people only go to a hospital for illness or careers. To have nature be an extension of the medical facilities, not separate, will create an atmosphere of complete healing through the work that the medicine and staff members provide, but also the natural beauty of the grounds and gathering spaces. Courtyards, open lawn spaces, sheltered walking paths, water features, natural barriers from noise and the elements all help create a social context for the users as they can explore, indulge, and be comforted in their surroundings.



Cultural Context:

The Sanford Medical Center has a clear mission and set of values that helps create a culture that can be brought into the project of Healing Gardens and Therapeutic Spaces. “To inspire hope and contribute to the health and well-being by providing the best care to every patient through integrated clinical practice, education, and research.” This can also be done in the design of the gardens as to have the solid connection between healing and nature, one needs to be inspired, to have a place that they can go to to be apart of something that is better than what they are going through at the moment or to enjoy the time they have while in the therapeutic space. Respect, Integrity, Compassion, Healing, Teamwork, Innovation, Excellence, and Stewardship are the values that make up the Sanford Medical Center and will be integrated into the design work for the gardens, especially when receiving feedback from the members of the staff and visitors on what they would prefer to have in the gardens and therapeutic spaces to achieve this goal.

The Sanford Medical Center is built on land zoned as General Commercial for the City of Fargo. That means that the section of land can “provide for commercial activities in the central business district and along the major arterials.” Previously before the land was designated for commercial use, it was farmland owned by local North Dakotans that was sold to the city for further use of the land. With much of Fargo starting near the Red River and following the BNSF Railway, the land use before all of that was prairies and very small clusters of trees. Realizing how fertile the land is in North Dakota much of it has been converted to farmland then repurposed for other uses when farming isn’t applicable. With that idea and given the scale that the Sanford Medical Center is at, the 39 Acre property served a purpose that the other commercial sites couldn’t.

The surrounding area for the hospital is becoming quite developed with a number of amenities adjacent to it. The connected context makes up about 32 acres, equaling out to 1,410,880 sq. Ft. There is a large vacant lot to the east of the property that will be renovated in the future to make an addition to the current Sanford Medical Center. There are also stores, gas stations, hotels, apartment buildings and more that provide for the city but also for the people that inhabit the hospital everyday such as staff, patients and visitors.

With the culture of the area comes with the culture of Sanford itself and how it successfully uses the land but also successfully helps the staff, patients, and visitors. The Sanford Medical Center has a mission to “continually build on the diverse talents, experiences and beliefs of our employees, as well as the patients, and communities we serve.” They plan to stay “dedicated to sharing God’s love through the work of health, healing, and comfort.” How that is accomplished is through their values of Calling, Courage, Family, Community, Service, Resolve, and Advancement.



Application of Results - Unifying Idea Research

How can a Landscape Architect create a network of hospital campus gardens, inspired by the native prairie of the Upper Midwest Region and picturesque landscapes of Europe, that promote healing to the site, the patients, and the care-givers?

The success and values of any health facility come from its architecture, medicine, and medical staff. To transfer those ideals from the necessary to the desired such as the landscape around it is what makes the entire experience of a hospital successful, memorable, welcoming. The Sanford Medical Center in Fargo, ND has the opportunity to do this through the thesis project of Healing Gardens and Therapeutic Spaces. The Medical Center is the site for this project, but the thesis design will be applicable to any health facility through the use of visibility, accessibility, comfort, quiet, relaxation, distraction, connection, healing, and activities. The values for this specific project will be those of the Sanford Medical Center: Family, Community, Service, and Advancement, which will help influence all aspects of design.

Mixed Method Research was done through the use of descriptive/comparative case studies, typological research, historical analysis and a user-preference survey. From all of these, I will be able to select areas of opportunity to design on the property and buildings on based off the concerns of existing site conditions, open green space, proximity to existing buildings, utilities, entrances and exits, emergency routes and locations, views from inside to outside the buildings, circulation connections or disconnections, and seasonal interest points based off of shade, sun, precipitation, and wind. All of this information combined will be able to showcase design elements that hospitals in Fargo, ND haven't thought of or haven't been able to apply yet given existing space, climate, and budget.

The user-preference survey will help to answer more specific site design details such as plantings, colors, textures, forms and spaces, outdoor structures, seasonal site use, and more. The use of all the answered questions will go into each designed space as the experience will be a desired one for the whole site and not just one area. To have questions that create images and then reality for staff, patients, and visitors of the Sanford Medical Center is the goal of the survey, to get the users feedback on what they would want rather than be told from the designer. A design for the people that designed it.

Master Plan Design Opportunities:

Broken Circulation and Site Elements

Under-Developed Landscapes, mainly around the hospital

Heavy Weather Elements from NW, NNW, SE, SSE, Heavy shade on 3 quarters of the hospital building at all times.

Research = Most consecutive answers throughout User-preference survey

Analysis = Reconnect broken elements and isolated access areas

Cultural = Structure ideals based off of Sanford Values

Mission: Dedicated to sharing God's love through the work of health, healing, and comfort.

Vision: Improving the human condition at every stage of life through exceptional care, spiritual enrichment, innovation and discovery.

Values:

Calling - Demonstrating enthusiasm for those we serve, our vocation, and the organization's mission

Courage - Having strength to persevere, innovate, use our voices and take action.

Family - Celebrating the connection and commitment we have to each other through it all.

Performance Criteria:

Performance Categories:

Property = 39 acres = 1,680,000 square feet

Building Footprint = 6 acres = 261,360 square feet

Landscape = 12 acres = 522,200 square feet

Hardscape = 21 acres = 914,760 square feet

Connected Context = 4 acres = 174,240 square feet

- Off-site Context – 3 hotels, gas station, bank, apartments, and open lots

- Open Green Space – open lawn, boulevards, open lots

- Existing Buildings – on site – hospital, utility building

- Vehicular Circulation – parking lots, roadways, streets

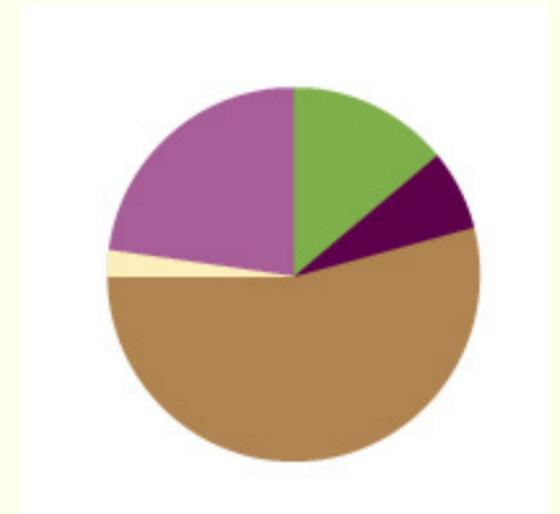
- Pedestrian Circulation – sidewalks, walking corridors, open lawn space

- Building Entrance/Exits – main, south – employee, north west – emergency, north east – courtyard, east

- Property Entrance/Exits – 8 – every side of property

- Public Gathering Spaces – Main entrances, courtyard, open lawn spaces, parking lots

Space Allocation Table:	Acres:	Square Feet:	Percentage:
Property	39	1,680,000	47.6
Building Footprints	6	261,360	7.3
Landscape	12	522,200	14.6
Hardscape	21	914,760	25.6
Connected Context	4	174,240	4.9
Total:	82	3,552,560	100



Behavioral Performance (usage patterns)

Performance Measure: The design will provide better pedestrian circulation around the entire site, not just adjacent to the buildings, reduce vehicular traffic within the site, and allow for spaces to be utilized differently based on pathway placement.

Performance Measure Source: The performance of site usage will be measured by technology that calculates wind and network connectivity. This will help discover where the least and most desirable places on the site are to circulate to or to be effectively designate spaces in the design.

Performance Analysis: The performance analysis is analyzed by the network and corridor connectivity. These are computer simulations based off the site inventory and analysis found from the site visit to help predict the best ways to navigate around the existing elements and or opportunities given in proposing other elements such as hedge rows along parking lots for wind and snow or shelters implemented into gardens for shade.

Psychological Impact (aesthetics, sensory experience)

Performance Measure: How the staff and visitors of the Sanford Medical Center feel on healing gardens and therapeutic spaces will be the initial measurement. What colors do you prefer? What types of plants are more ideal? Does anything on the hospital grounds stick out to you or what would you like to see in a garden or therapeutic space?

Performance Measure Source: The psychological impact will be measure by a user preference survey. This will be given out to have at least 100 people or more fill out to then be able to measure the answers on preferences to then influence the design for the site.

Performance Analysis: The psychological impact will be analyzed through the ones who answered the survey with feedback useable to implement certain plantings or structures in the design versus the ones who answered I don't know, not sure, and no comment.

Environmental Impact

Performance Measure: The environmental impact will be mainly on the project site. The existing site has the bare minimum vegetation and open lawns at 14.6%, and the rest is the existing buildings and parking lots/roads at 32.9%. The new design will dictate how those percentages will change, how the temperatures change for the site because of the implementation of more vegetation and water features, and how much more this creates a better habitat for local wildlife.

Performance Measure Source: The environmental impact will be measured on the project site, Sanford Medical Center. It can be measured and analyzed with the re-use of spaces, temperature with minima thermometers, and volunteers working with patients from the hospital on bird watching and others.

Performance Judgement: The analyzed information with the proposed design will show the differences in the existing to the proposed. The percentages should be able to even out or be better with the designed spaces for healing gardens and therapeutic spaces. The temperatures will alter based on the re-use of spaces, additions of vegetation and water features, and how the lowering of heat in the summer and added warmth in the winter happens. The wildlife will be able to flourish because of the added shelter, lessening of vehicular circulation, and provided sustenance from the healthy vegetation.

Conclusion Summary:

Space Allocation, Behavioral Performance, Psychological Impact, and Environmental Impact create the building blocks for a successful design. Healing Gardens and Therapeutic Spaces should be able to improve every aspect of the Sanford Medical Center when designing for the users. The patients, staff, and visitors, the connected context of the site, and down to the local wildlife are important to keep a healthy environment intact.

The goal in finding these elements through the design process is so that the project is measurable for accurate results, to keep the main idea that this project can become a standard for hospitals around the region. The Space Allocation helps in the inventory and analysis part of the research as it shows the majority of the site is the buildings and the hardscape. There will be no eliminating of the buildings but can be added to in the usage of green houses, atriums, visual rooftop gardens, and sheltered connected walkways. The roadways also cannot be altered but the amount of parking lot space versus green space can be re-evaluated as sections of it are not in use year around. That will be determined on the proposed design based on the user preference survey and the inventory and analysis on where the spaces will be most desirable.

Behavioral Performance and Psychological Impact are influenced by the Space Allocation but go hand in hand with each other as the performance of the design will dictate how the users are affected physically, mentally, and emotionally. The Behavioral Performance helps when trying to find the most desirable networks for circulation, what the existing ones are, and what needs to be improved for the best use of spaces. The year-round interest keeps this in the forefront as to have the behavior of the site be successful, the users need to be able to use it successfully without having to worry about the outdoor elements that the Great Plains Region receives through-out the year.

The Psychological Impact of the project is to encourage use of the outdoor, reduce stress, allow for relaxation and enjoy their time at the hospital and being on its grounds. The user preference survey will impact the design greatly because it shows exactly how the people of the area perceive gardens and therapeutic spaces but also if they would like impute on them as well. Designing for the users is easier when the users give feedback on what they would want, and as a responsible landscape architect, one should always listen to the client to go above and beyond that they suggest.

Environmental Impact is the main building block as this is an environmental design. The landscape is just as important as the building for the purpose of improving the area and improving the health of the people. Cure and Care is key providing for the ill, the sick, the lives that need to be uplifted for the best quality of life which the healing gardens and therapeutic spaces plan to do. The Performance Criteria of the site are these four elements and will be implemented for the success of the project and the medical center.

Design Concept Statement:

Modern Day Gothic Architecture within a Medieval Landscape

From a yielding prairie of the Great Plains Region to a monumental structure for healing and care, the Sanford Medical Center in Fargo, ND was erected. Though the land it stands upon could no longer be used for crops and preservation, it could be used for an extension of healing, to be therapeutic to the people and building utilizing it. A conservatory, courtyards, fountains, gardens with covered walking paths, and open lawns bring the healing and therapeutic spaces to life. With inspiration from the Gothic Architecture, the landscape elements remind us that they are to be explored all times of the year, to be gathered in for social events or to be experienced individually for peacefulness and a connection to nature. The landscape becomes an extension of the building with enclosed gardens and gathering spaces. Ornamental fencing, hedges, and difference in plantings create rooms within rooms from outdoor leading to indoor. All ages are to participate in the healing of a children's play garden, secret gardens, strolling gardens, public courtyards, warm and exotic spaces when it is too cold to be outside, and experience these all around the main building. Touching, feeling, smelling, and seeing can bring all the joys of a naturalistic landscape and a formal landscape together with the influence to construct with Middle Ages architecture.



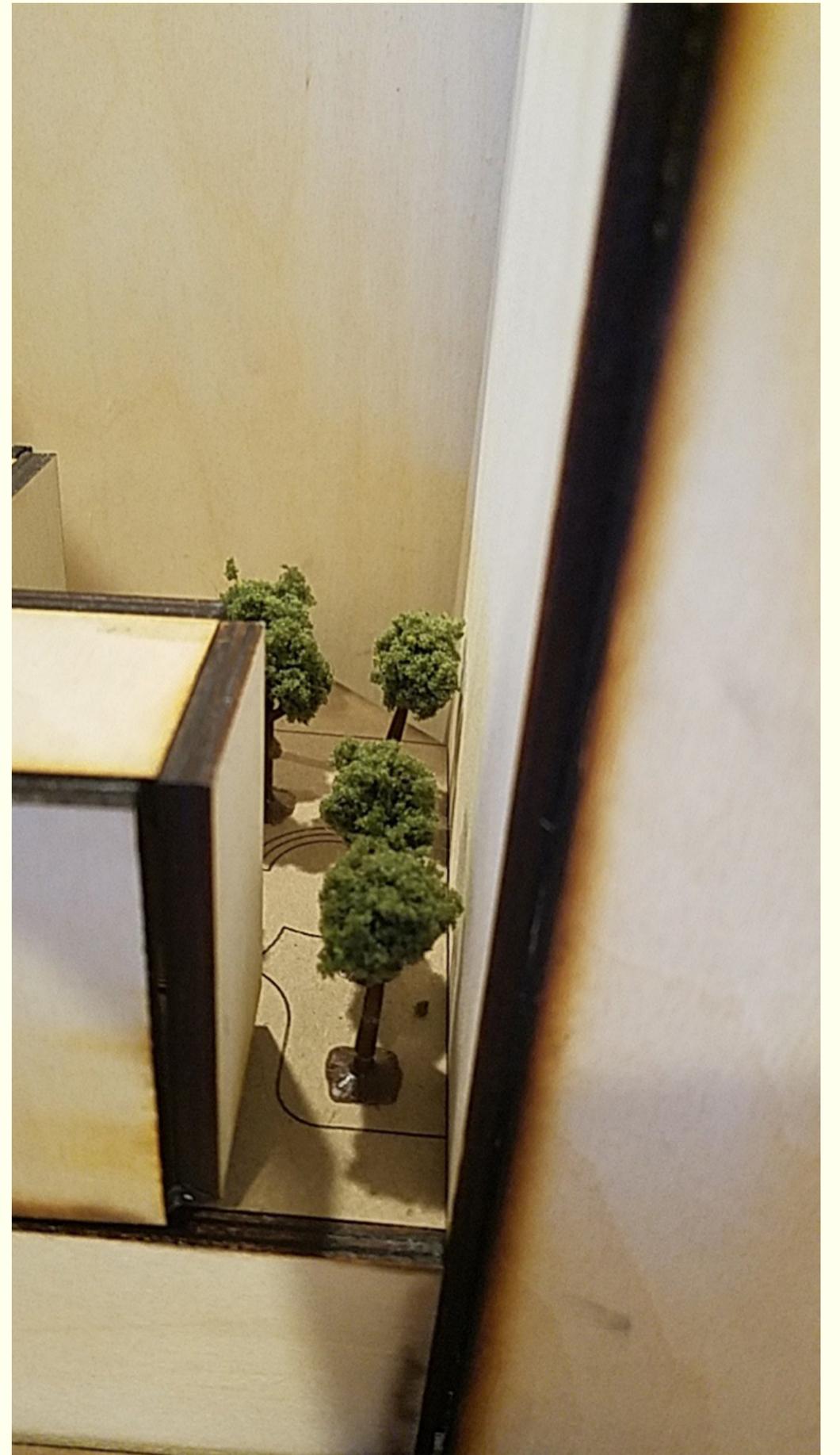
Schematic Design Drawings & Diagrams:

The schematic design drawings and diagrams are presented based on the mixed method research, the inventory and analysis, and the physical model. Case studies, books, articles, and the user-preference survey provided what the design elements should include and the inventory and analysis provided how and where those elements should be implemented in the design. Once the design had been completed, the physical model gave a real-life perspective of just how those elements would be visualized.

The mixed method research gave a view into what a successful healing garden and therapeutic space had and what elements in those gardens or spaces didn't succeed such as views from patients rooms, placement of privacy space in the landscape, how to provide clear circulation from one space to the next and so on. The user-preference survey for the Sanford Medical Center gave much direction in what exactly the user would want to encounter when using the hospital grounds or looking out a window. From the use of flowering plants, building materials of wood and stone, what time of year the gardens would mainly be used, and if these spaces would even be important or an interest to the users of the site have given the full design what it needs to be successful.

The inventory and analysis of the Sanford Medical Center site combined with the user-preference survey provided much insight to what is going to actual work design wise on the hospital grounds such as planting hardiness for Fargo, ND, sun versus shade around the entire building, wind tolerance in the areas around the 274 foot tall building, circulation patterns to improve, entrances and exits to highlight, views from 10 floors, emergency routes and spaces to avoid, and what to provide the users that isn't already existing such as open lawns and a few planting beds. All of which is mentioned in the Site Analysis portion of the reading.

The physical model was created to give a scale to the users of the site and visualize how the proposed design would work around the existing building. It was made out of wood, layered with chipboard to have the proposed Secret Garden design etched into, in order to make sure it would actually work with the scale of the project.





Design Development Drawings & Models:

The Master Plan had to be broken down into two phases: Phase 1 and Phase 2.

The first phase would lead into the concept design, having the utility building, the hospital and its adjacent context become completely designed. Phase 2 encompasses the rest of the 39 acres of property to where out of the 10 proposed designed sites, six of those will have to be fully designed at a later date. The 10 spaces include the front entrance to the site - Arrival Court, the circulation to the west on the property - Wonder's Path, continuing with the landscape around the utility building - Prairie Lawns, directly south would be the parking lot space large enough to house mass plantings - Rain garden, over to the employee entrance and exit that needed some weather element protection - Points Plaza, to the east of the building is the existing outdoor eating space and open lawn for the users of the hospital - Cloister Garden, across the parking lot to the east would be the street spanning the entire east side of the property - Spring Alley, to the east further and encompassing the east, north, and west sides of the site would be open property - Screen Ave., the surrounding context from apartment buildings to hotels creates a community - Community Campus, and lastly on top of the main flat surface roofs would be the multiple rooftop gardens.

Each of those spaces provide a want or need from the user-preference survey, takes into account the inventory and analysis information that helps dictate what can go where or what should be implemented, and the mixed method research helps inspire the design and the elements created into those spaces based on similar previous projects.

The Concept driving the entire design is Modern Day Gothic Architecture within a Medieval Landscape.

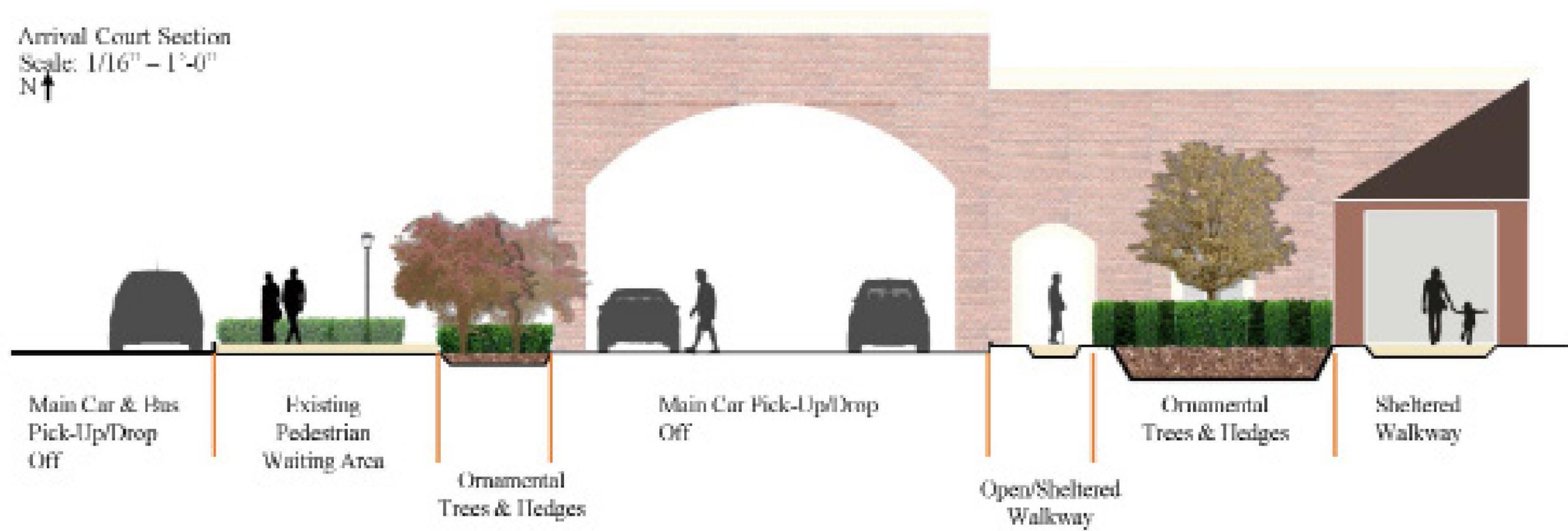
This can be seen through each design element such as plant, structural, and furniture palettes that provide pictures, colors, textures, and more into what is either placed in the landscape or what inspired some of them. Through section elevations, section perspectives, and perspectives of the site, one will be able to see and virtually experience what the proposed design has put into fruition. Formal gardens, open lawn spaces, courtyards and plazas, children's playground, viewing gardens, privacy spaces, conservatory, rooftop gardens, structured seating, water features, fire pits, mass plantings, protected walkways and more.

Influenced by the structural and design materials on the inside of the hospital can be seen throughout the landscape as well as again to connect the architecture to the landscape, to continue the flow of design and movement from inside to out, out to in, a entire property meant to provide the healing and therapeutic needs of the users through design and detail.

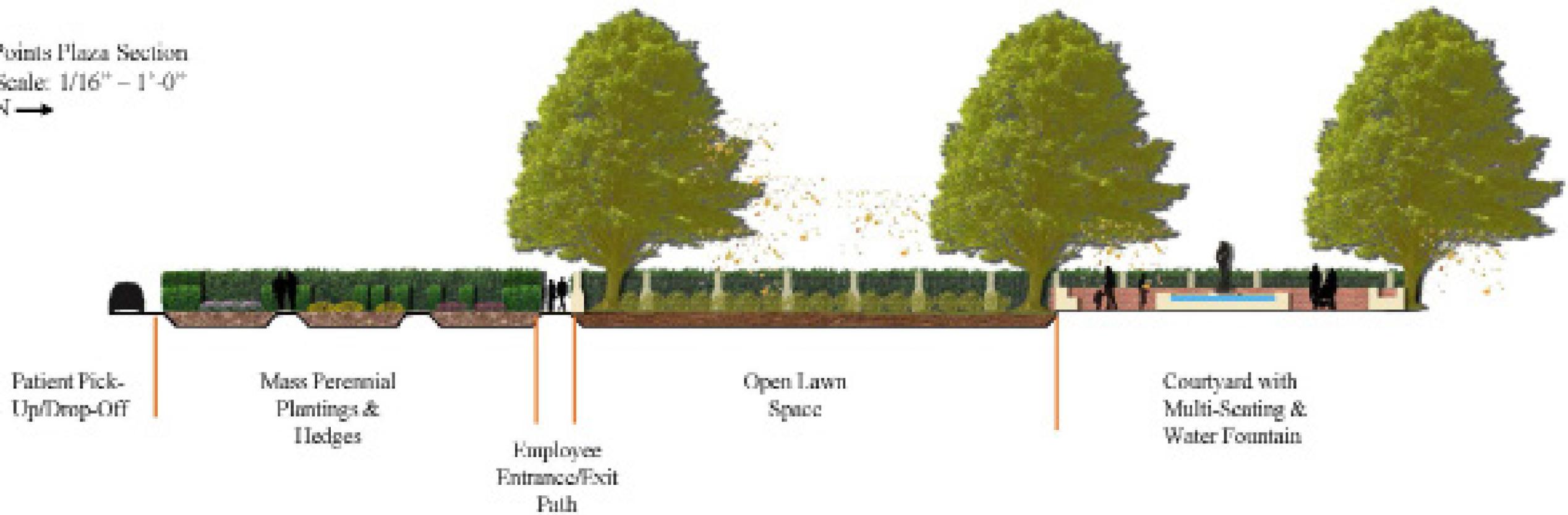
Conceptual Master Plan



Arrival Court Section
 Scale: 1/16" = 1'-0"
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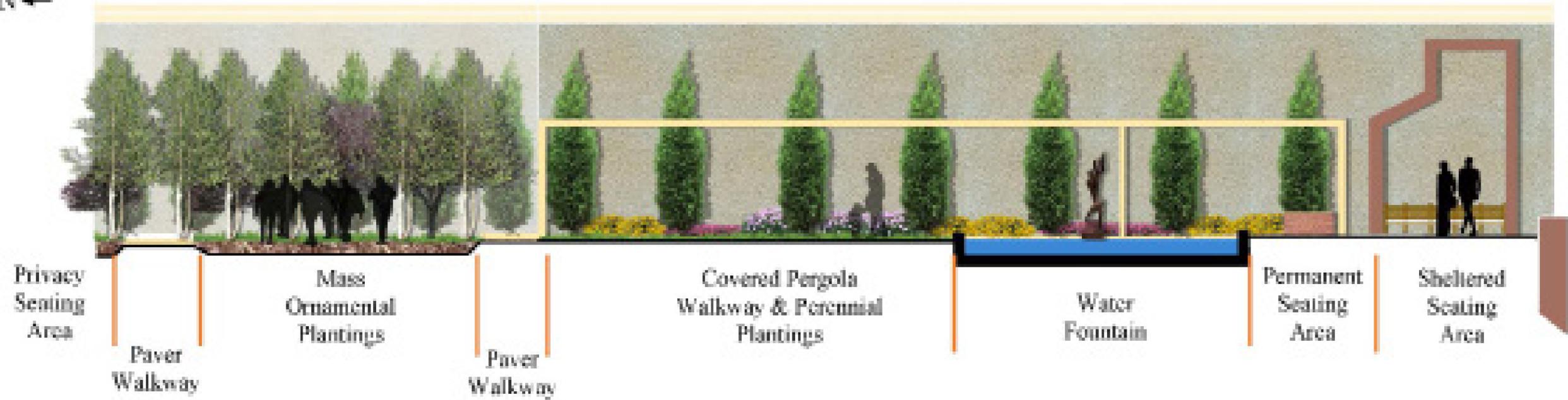
Points Plaza Section
 Scale: 1/16" = 1'-0"
 N →



Secret Garden Section

Scale: 1/16" = 1'-0"

N ←



Elizabeth Cloister Garden Section

Scale: 1/16" = 1'-0"

N ↑









Detail Drawings:

Ornamental Fence Detail

The ornamental fence was created in order to make defined spaces within the newly designed landscape. The fence is seen throughout the design but not completely defining every space as there are other indicators such as hedges, existing walkways, trees, or proposed walls of buildings. The fence was inspired by cloister gardens and Medieval landscapes through their use of walls and fences with intricate designs and arching sections or openings. The use of iron, brick and precast molds of concrete are to give the impression of stone work and mimic the intricate designs of the mentioned landscapes. The materials also give preference to the existing materials used for the Sanford Medical Center as to type in the building to the newly designed landscape elements.

Paver Detail

The pavers selected for the project as based on the circulation, texture, color, locality, pattern. The mixture of warm colors, smooth textures, plank to cobblestone, the pavers are very important as they indirectly help set the pace and direction for pedestrian circulation and give the eye more to look at, the feet to feel, and the overall design something more than just the average concrete walkway.

Rooftop Garden Detail

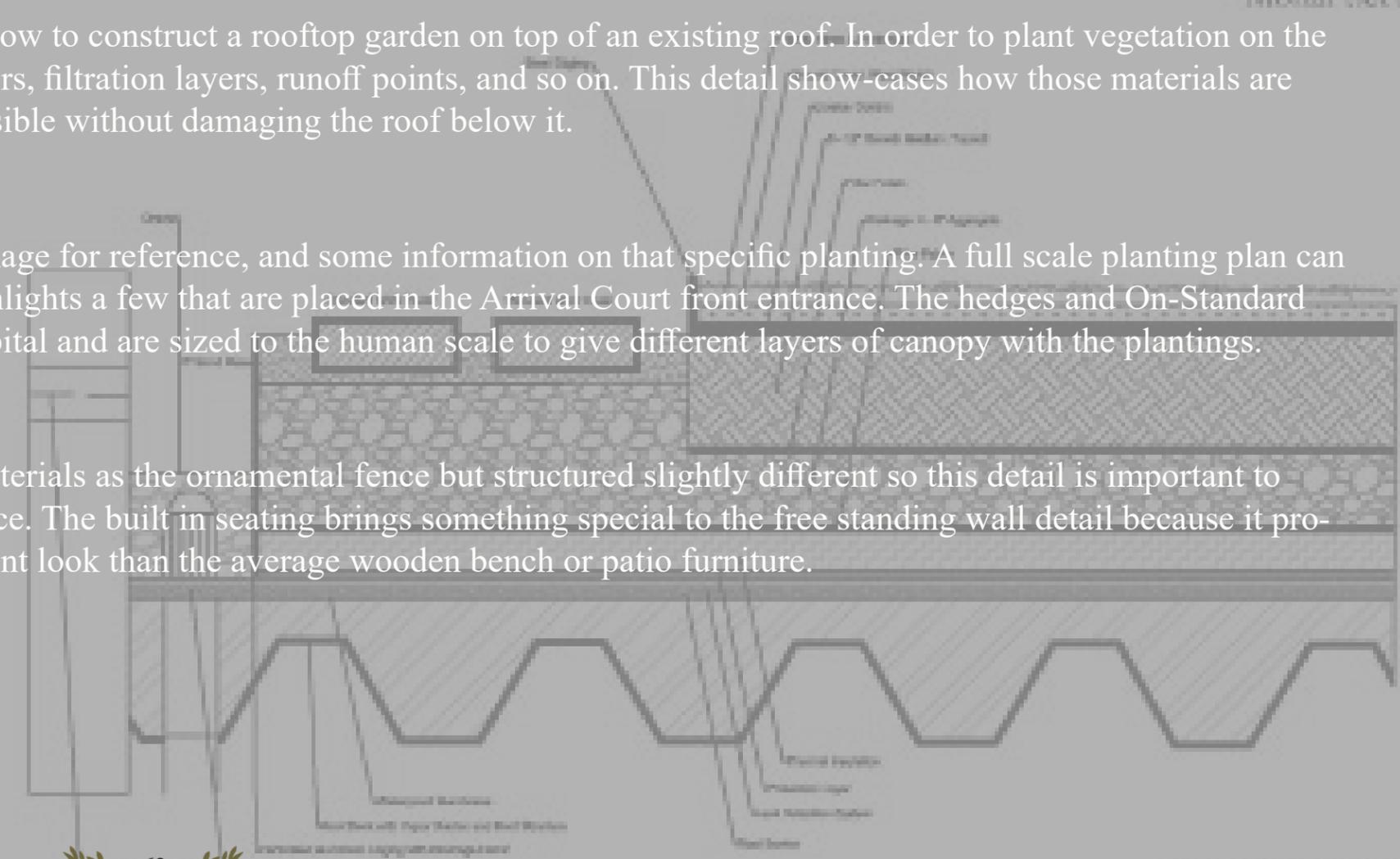
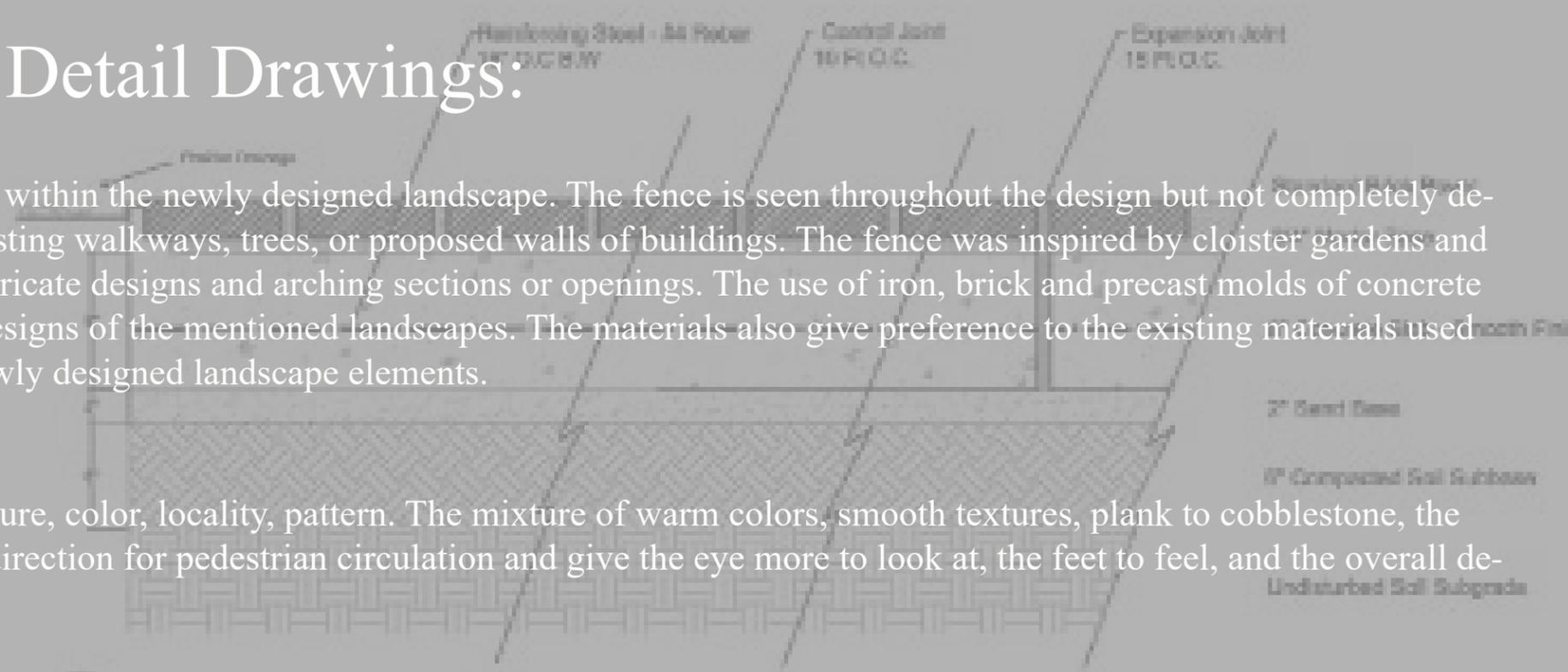
The rooftop garden has many different elements to it and one of those is how to construct a rooftop garden on top of an existing roof. In order to plant vegetation on the roof there needs to be soil, sand, aggregate, weed barriers, moisture barriers, filtration layers, runoff points, and so on. This detail show-cases how those materials are layered so that plants can be planted into them and live for as long as possible without damaging the roof below it.

Planting Plan Detail

The planting plan shows the area of planting, what is being planted, an image for reference, and some information on that specific planting. A full scale planting plan can have hundreds of plants to indicate and inform but this specific detail highlights a few that are placed in the Arrival Court front entrance. The hedges and On-Standard trees are meant to be specimen plantings for the front entrance of the hospital and are sized to the human scale to give different layers of canopy with the plantings.

Free Standing Wall with Seating Detail

The free standing wall with seating built into it is made from the same materials as the ornamental fence but structured slightly different so this detail is important to understand the differences between the two besides the outward appearance. The built in seating brings something special to the free standing wall detail because it provides permanent seating for the users of the grounds and also has a different look than the average wooden bench or patio furniture.



Ornamental Fence & Block Wall Detail

Project Conclusion:

Why is the project that you have defined important to you as a person (your personal reasons)?

The reason why this project is important to me personally is because it had an effect on people very important to me, my parents. As of September 2018, my father had indications of cancer in the tubes connecting to his liver. Hospitals in Fargo, ND at the time could help up to a certain point and my parents were referred to Mayo Clinic in Rochester, MN. From September of 2018 to May of 2019 my parents went back and forth from Fargo to Rochester, spending weeks if not months away from home to help my father who was diagnosed with Bile-duct Cancer of the liver. Through their many trips, and extended stays, they were able to explore and spend time in the gardens and green public spaces provided by the hospital itself to neighboring parks or walking paths from the quarters they stayed in. Being aware of my background in going to school for Landscape Architecture, my parents thought it was important that I be aware of their activities and opportunities in healing gardens and or therapeutic spaces, that something similar could be provided in Fargo, ND. To make that idea my thesis project was that of my parents' and though my father will not be able to see the project to its end result as he passed away in May of 2019, my mother will be able to see, from beginning to end, that something that was provided for not only my terminally ill father but for her as a supporter can also be provided in the Fargo area as well means everything to me personally.

Why is it important for you to do this project at this stage of your academic development?

This project is important for me to do at this stage in my academic development as it will encompass everything I have learned as a student. I will be able to showcase my skill in research and design, time management and consistency, accountability to design for the user and not just myself, and so on. I will be taking this project from the stand point of designer to client, a real client that has given feedback to the over-all idea and then down to the design aspects that would be used year-round to help the people at Sanford Medical Center in Fargo, ND. This site was chosen as it is the most recently built within the last few years and has enough amenities around it that it can be taken as a complex to connect everything together through greenways and gardens vs. a few plantings beds spread out on the property around the building as it is presently.

Why is it important to do this project at this stage of your professional development?

This project is important at this stage in my professional development as it is a designer to clientele project. This is where instead of coming up with a hypothetical project that wouldn't be implemented into the real world, I am proposing a project that could be done to benefit Sanford Medical Center in Fargo. I am taking into account the property through inventory and analysis, who the client is, who the users are, and so much more in order to make this a successful project. With 5 years of work experience at landscaping companies, floral shops, and academic assistantships, I have had to work with people, technology, and the weather to where I am equipped to look at this project at every angle and create something I would be proud to put my name on and in turn if I were to be doing this professionally, one a business would be proud to back. Though this project isn't meant to be implemented, it will show that in the professional world it could be and as a student soon to graduate with a Masters in Landscape Architecture, that should be the goal of any student as that is what we will be expected to do.

How is the project going to add to your knowledge base?

This project is going to add to my base knowledge as it has given me a new perspective. Through my academic and professional careers, I have yet to have worked in a hospital setting. In any landscape project one needs to look at the location, hardiness zone, users, circulation, weather, sun direction, and much more, but with this project it all needs to be very specific as there are existing conditions on the site to work around such as the buildings, parking lots, roads, and proposed connected amenities. With this all being done in a hospital setting, I need to be deliberate in every part of the design from new walking paths to the plantings being proposed as to accommodate every users needs as they are going to be using the spaces to health from physical, emotional, and mental causes, not the reverse brought on by the spaces provided.

Why is doing the project important for the profession at this time?

This project is important for Landscape Architecture profession at this time because creating and designing landscapes are forever. To design landscapes in the medical field is a part of that branch as the need to heal, the use of medicines, medical facilities, and the people that need and provide that are forever as well. Specifically it is all important at this time, especially for this location, in that this is something the Sanford Medical Center can expand upon. As becoming the new medical hub for the Fargo area and beyond in the region, to have as many amenities and opportunities for people to use their facility is essential to their success and a simple way to back that is through providing healing gardens and therapeutic spaces indoors and out that can be used year around, designed for those specific users.

Why is the project important to be implemented in its social context?

This brings nature and people together in a social way. From just sitting in silence surrounded by plantings and water features to be completely active in physical therapy or yoga or just walking around, all this even done by yourself to also large groups of people can create a social hub for the hospital. It will draw people to the hospital and also out into the gardens and spaces provided, giving an experience that other hospitals around the country give but can be scarce to find locally.

Why is the project important to be implemented in its cultural context?

Hospital culture or “the attitudes, beliefs, and expectations of an organization” can be one that makes people feel safe and supported, they are listened to, that the outcomes of illness and return patients is better for all. This is important because if the hospital itself wants to strive for those goals, why would healing gardens and therapeutic spaces on the hospital grounds want to do the same? To create a space that takes away the focus on machines, tests, doctors and nurses everywhere, but invite nature, fresh air, privacy or sociability that one cant really get inside the hospital walls. A hospital culture that’s green.

How is the project justified in its chosen site location?

This project is justified in its chosen site location as the site location is undisturbed by large amounts of development. Based off interstate 94, located on 23rd Ave South in Fargo, ND, Sanford Medical Center is the largest hospital in the Fargo area. It was built in 2017 with the main building of 10 stories and a large utility building adjacent to it to the north west. Much development has happened to the west and south of the site but mainly for residential, giving the location more of a personal, homey feel versus surrounded by commercial or mixed use buildings.

Would your project contribute to the advancement of the profession?

There are already professions within the world of landscape architecture that focus mainly on the medical field so contributing of the advancement I am unsure but furthering it, keeping it relevant, absolutely. This will show-case that again it works, to have nature be the pillar next to health, medicine, cure and care is important and as landscape architects this shows also that its not just parks and plazas spaces that look pretty, its something that contributes to the advancement of human health and quality of life too.

Can your project be left for someone else in the profession to solve?

That any landscape architect could look at this site and see that there is opportunity here, yes and can do that at many other hospitals or medical facilities, yes, but for myself not to solve it now would mean that this project couldn’t or shouldn’t work, but it does, can, and will if the right people want it to happen. If I were unable to finish this project, then yes someone else in the profession would be able to easily solve it but I plan on the completion of the project to be done myself. I should solve this because I am from the area. I know the site, the city, the people, I have lived here for 23 years and continue to learn and grow here. For someone to have a personal connection with the site but also the project in general such as knowing people who have used this hospital, have had to use hospitals in the area and for many different reasons, it attracts those who want to be in nature when they can or at least have it provided for them so they can make that decision on their own. This is something that I personally would love to experience, especially at a hospital of all places, and I am sure that many others do as well so I want to give them the chance to experience it here versus having to travel far away to find something similar.

What would be the post-occupancy impacts of your project?

1. Seeing how the plantings have survived, how many need to be replaced or added
2. How people are using the site from my intended programs versus how they are actually used
3. Ask the patients, staff, and visitors if they enjoy the spaces provided, what would they change included, has it been desirable for them in the way this project intends as well
4. What has hindered the project in the winter time or been successful in keeping it a year-round asset to the hospital
5. Has this implementation been a burden on the maintenance staff or been able to keep up with the daily/weekly/monthly/yearly up keep?
6. Have any jobs been created or cut because of this project?

All of these impacts would justify my project based on the successfulness and the failures in that there are going to be both, like with any project, but do the successes outweigh the failures, has this improved the hospital grounds for their purpose and my own or has this created a mess that will be taken out or misused within years of the project's implementation.

What would be the environmental impacts of your project? Would these impacts justify your project?

1. Trees – create protection from the sun, wind, rain, and snow that largely accumulates on the existing site, creates habitats for local wildlife
2. Shrubs – creates protection as well as they can be barrier against heavy street traffic, hold back the snow from sidewalks and parking lots, creates habitats for local wildlife
3. Flowering & Herbaceous plantings – brings colors, textures, life to a very dull site, smells, and medicinal/cooking/cleaning/etc. purposes to the gardens as well versus just visual
4. Ornamental grasses – help in higher heated areas such as parking lots, give the visual of naturalistic landscapes which are known around the state as it is a prairie
5. Plantings in general – provide oxygen, protection from the elements, bring life to the site and the people through the 5 senses
6. Storm water – re-use- with the way the gardens can be designed can help reuse stormwater for the watering of the plantings and or be recycled to be used in the design of water features.

With this project, the less parking lots spaces farther away from the hospital the better, to reuse space that isn't being utilized for parking can be used for the continuation of walking paths with surrounding plantings or just plantings in general or even open lawn space that will need to be protected and added as to give the users space, not just the vehicles. There is a need for more green space in this part of town that is booming with development and business. To continue to take away the farmland, prairie, limited amount of trees existing is creating a heating pattern, a heavy vehicle traffic pattern, and just untouched spaces that could be protected and even enhanced, so to keep that in the forefront of this project is important because I am trying to promote nature for the health of the site but also the people, not take it away from them as just the building itself does in the purpose of cure over care where it should be both.

How can you justify the project economically?

I can justify the project economically because all the designs, materials and plant choices are all going to be very specific as to be appropriate for the users, commonly used in the Fargo area, and within a reasonable count for the size of the design. As previously mentioned, this project is being acted upon as if it were to be actually created even though its main creation is for a thesis project. With that in mind though, the designs will take into the account of how any structure would be constructed, how many plantings will be used and what types, the ground cover materials, the structural materials, the process of site clearing and final touches for project completion and so on.

How can you justify expending the funds to implement the project?

If this project were to be implemented into real life, the cost for the project would be high as there is much green space to be designed upon, possible attachments to the existing and proposed buildings, the proper use of materials for the set user base of patients, staff, and visitors. This project will be a value to the medical center and to its members, it will be a value to the Fargo area and region as there are a select few medical facilities that have such a setting, and overall it will provide the healing that medicine and views out a window can't to certain extents.

Are these returns monetary, or are they intangible?

70% intangible, 30% monetary depending on the funding and how much I can create to include the community in the design process to ask for donations, create events, etc.

The Author: Alicia Lynn Yokom

Don't expect more from others, expect more from yourself.

Strive to be the best and do the best but slow down when you can, time flies when you're in a rush. What is important will get done when it's supposed to.



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Design Studio Experience:

Undergraduate - 2nd Year: 2016-2017

LA 271: Introduction to Landscape Architecture

-Fall 2016: Professor Kathleen Pepple

-Projects: The Tea House - Moorhead, MN

The Dream Landscape - Casselton, ND

LA 272: Parks and Open Spaces

-Spring 2017: Professor Dominic Fischer

-Projects: Twenty Below Coffee Co. - Fargo, ND

William Marshal Park - Winnipeg, MB

Riverfront Park - Fargo, ND

Undergraduate - 3rd Year: 2017-2018

LA 371: Site Planning and Design

-Fall 2017: Dr. Yang Song

-Projects: Roosevelt Park - Fargo, ND

Cormorant Park -Cormorant, MN

LA 372: Community Planning and Design

-Spring 2018: Professor Kathleen Pepple

-Projects: The Tiny House Development - Fargo, ND

The Chicago Board of Trade Rooftop Redevelopment -Chicago, IL

Undergraduate - 4th Year: 2018-2019

LA 471: Urban Design

-Fall 2018: Professor Dominic Fischer

-Projects: Lower East Side Greenway - New York, NY

Midtown Fargo -Fargo, ND

Downtown Moorhead Block - Moorhead, MN

LA 472: Environmental Remediation

-Spring 2019: Dr. Yang Song

-Projects: Zagreb Internation Design Competition - Zagreb, Croatia

GIS - River Launch - Fargo, ND

Graduate - 5th Year: 2019-2020

LA 771: Performance-Based Design

-Fall 2019: Professor Dominic Fischer

-Projects: Spirit Lake Equestrian Trails - Fort Totten, ND

LA 772: Landscape Architecture Design Thesis Studio

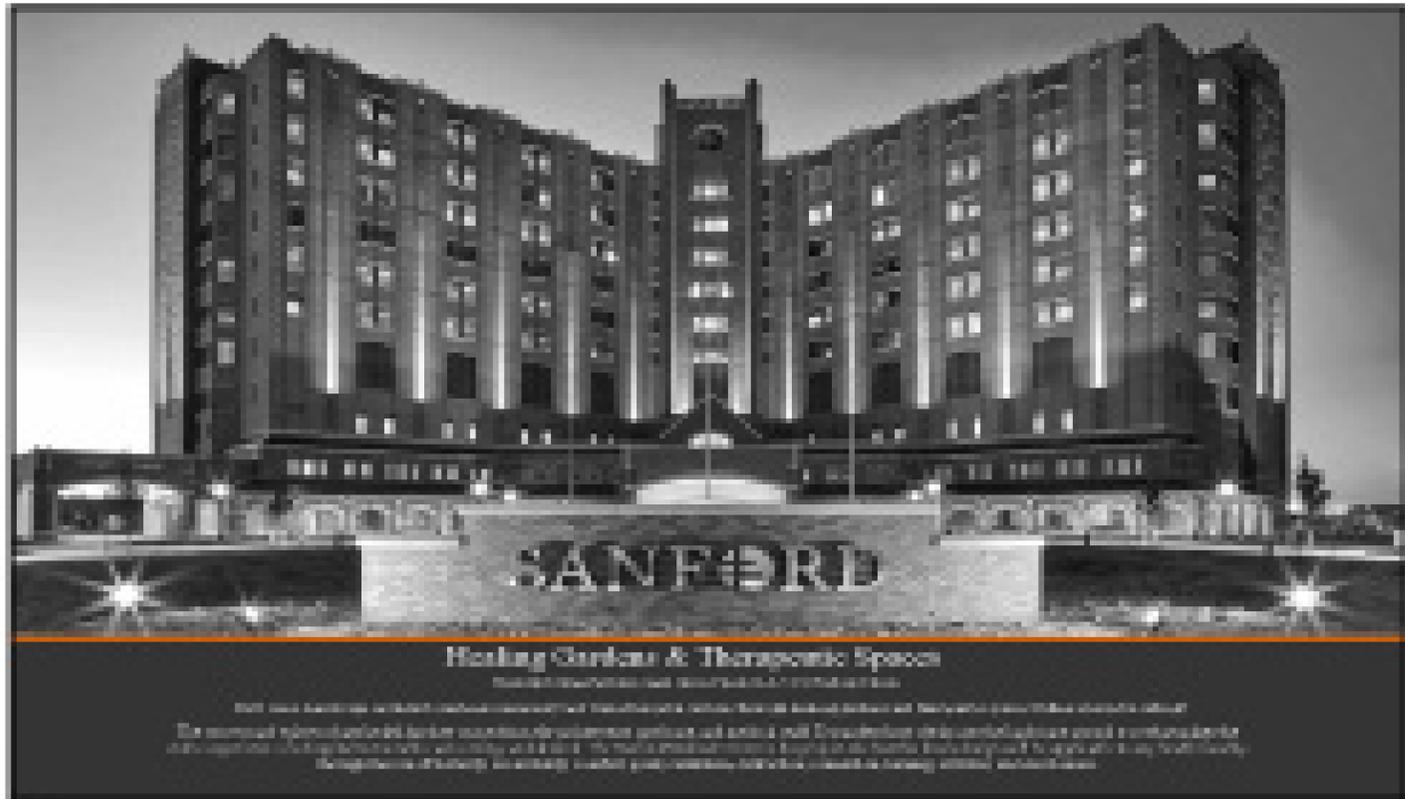
-Spring 2020: Professor Dominic Fischer

-Projects: Hospital Campus Gardens & Therapeutic Spaces

- Sanford Medical Center, Fargo, ND

Appendix:

- Mayo Foundation for Medical Education and Research. (2001). Mayo Clinic History & Heritage. Retrieved December 17, 2019, from <http://history.mayoclinic.org/timelines/history-timeline.php>.
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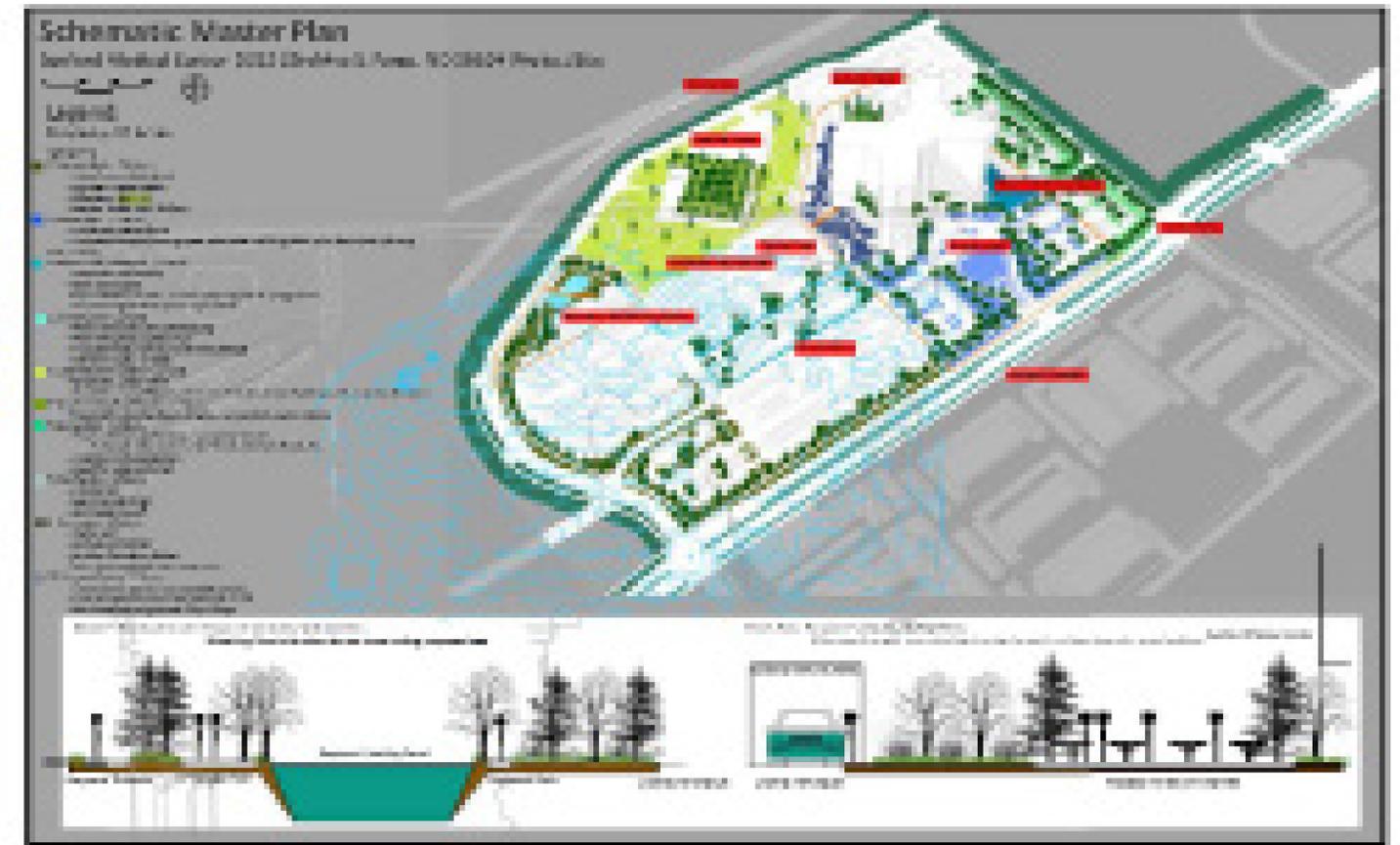
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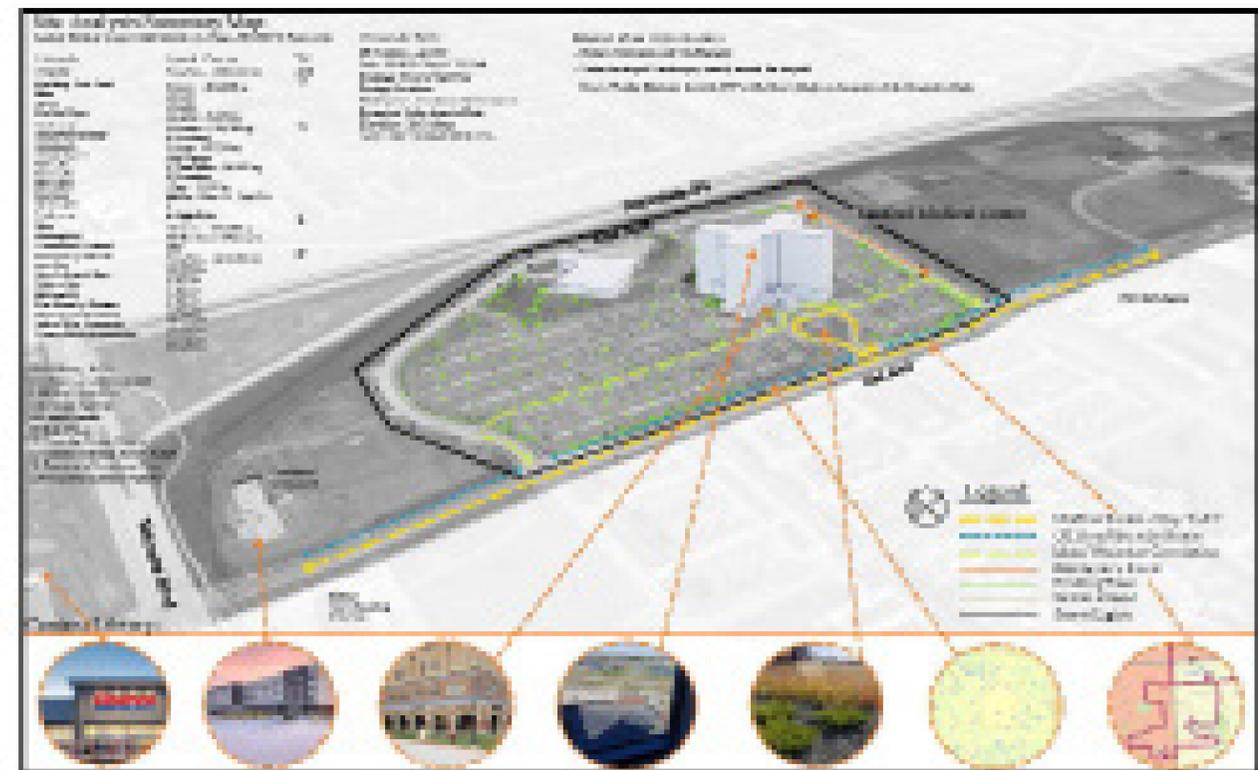
How can a Landscape Architecture combine research and value-based services through leading performance landscape specifications for hospital settings?

The success and value of any health facility center from its architecture, materials, and medical staff. To create these ideas into the best-sustainable landscape make the entire experience of a hospital more comfortable, safe, and desired. The Sanford Medical Center is the project site but this thesis design will be applicable to any health facility for the sake of visibility, accessibility, comfort, good, relaxation, distraction, connection, healing, services, and work space. The values for this specific project will be those of Quality, Community, Service, and Advancement which will help influence all aspects of design.

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Mixed Method Research was done through the use of a synthesis/ comparative case studies, typological research, historical analysis and a comparative rating. From all of these sources I will be able to select some of opportunities to design on based on the consensus of existing site conditions, open green spaces, proximity to buildings, utilities, commercial units, emergency routes and locations, views from inside to outside the building, circulation routes from or through them, and natural interest points (sculpture of water, sun, precipitation, sunlight).

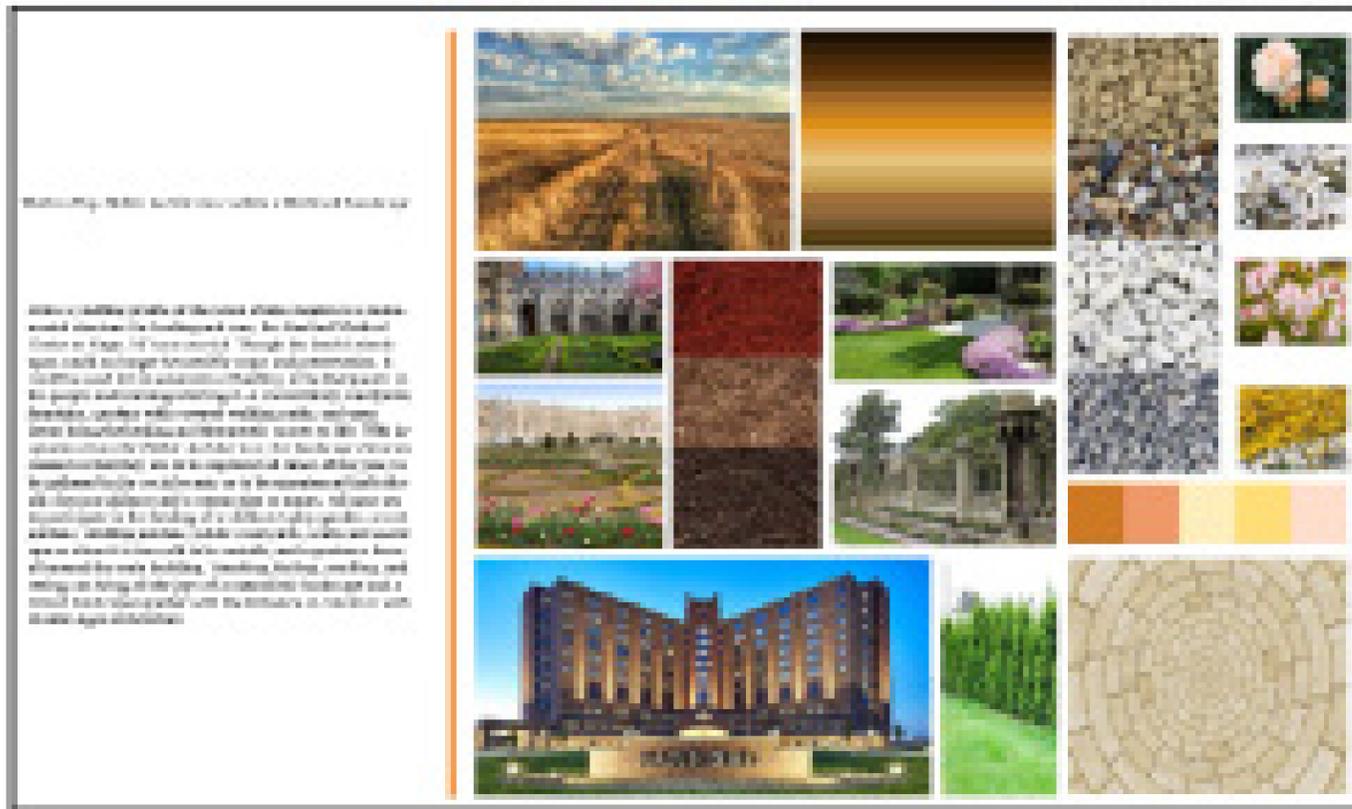
This comparative survey will help to narrow down specific site design details such as plantings, colors, textures, forms and spaces, outdoor structures, natural site use, etc.

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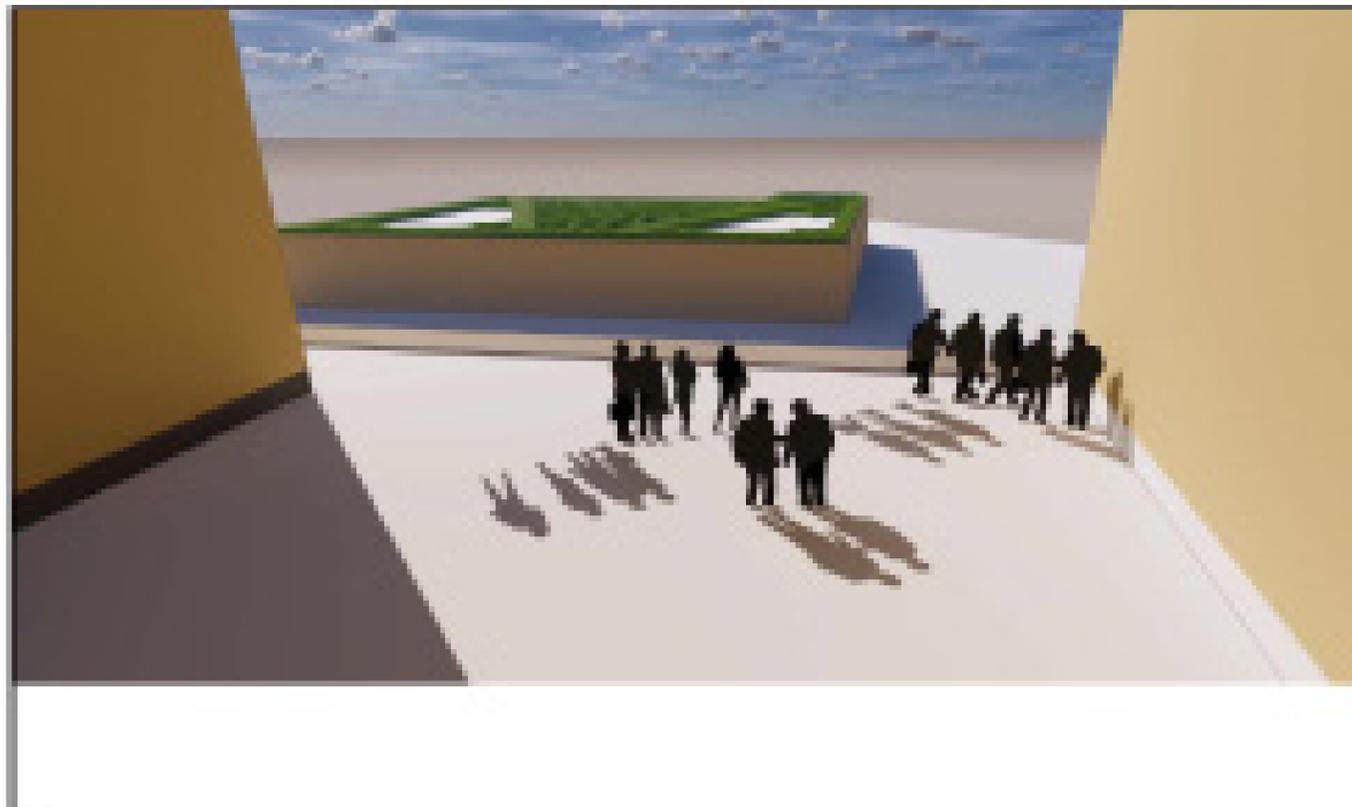
Using plants and flowers
 The use of natural materials
 Outdoor seating - recycling station
 Garden house
 Foliage trees
 Water feature area to sit, read, or eat using from fountain
 Create gathering space for study, eating or socializing with others
 Vegetal and fill the existing planting beds
 Create a new outdoor structure
 Create a new outdoor structure



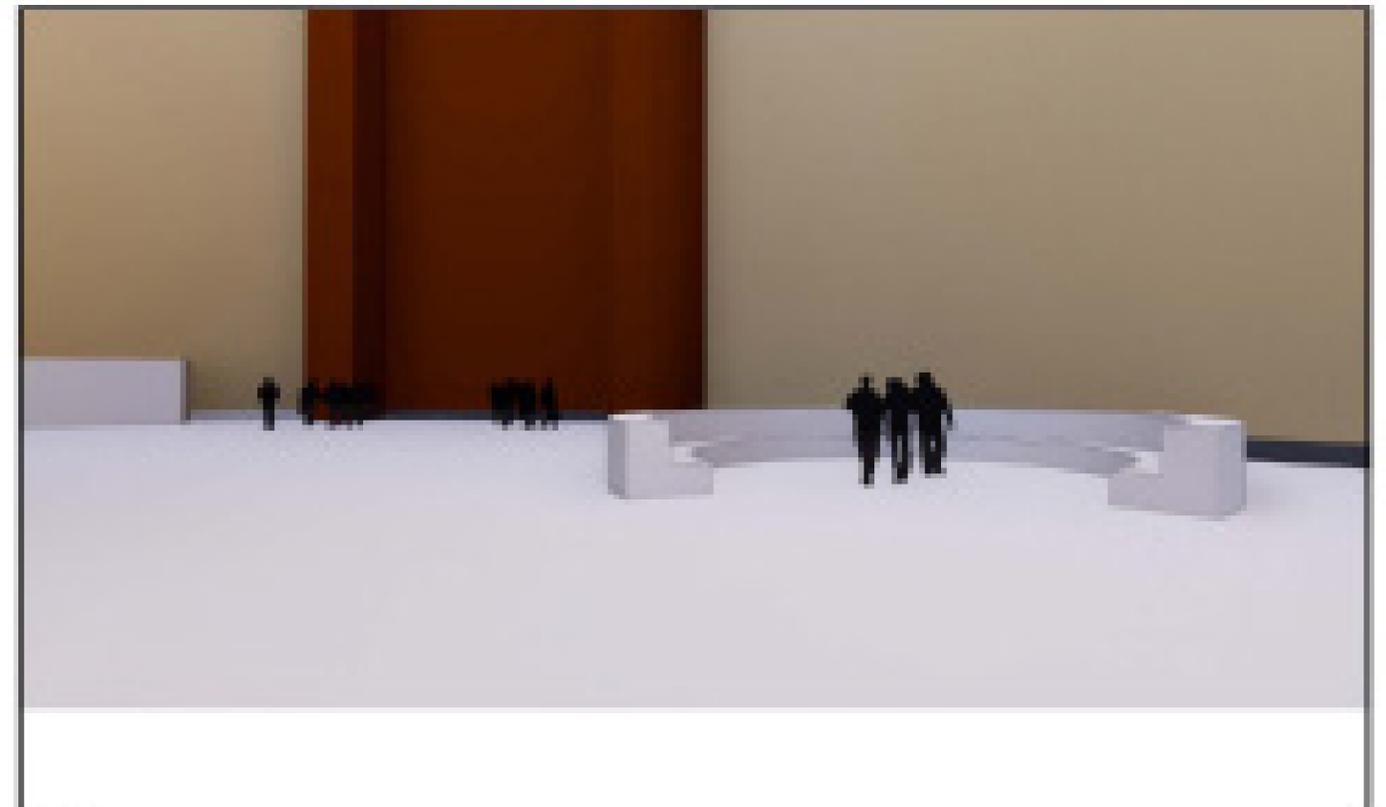
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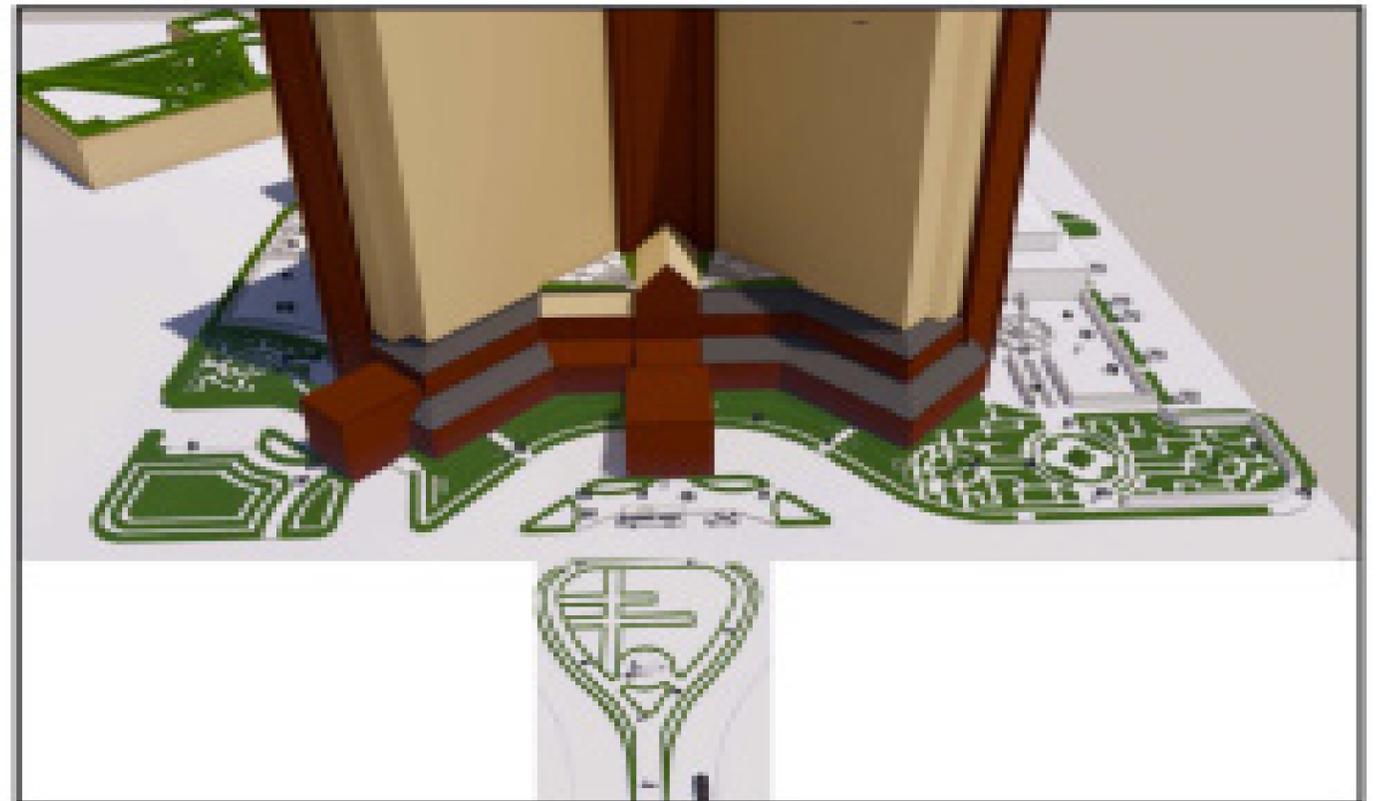
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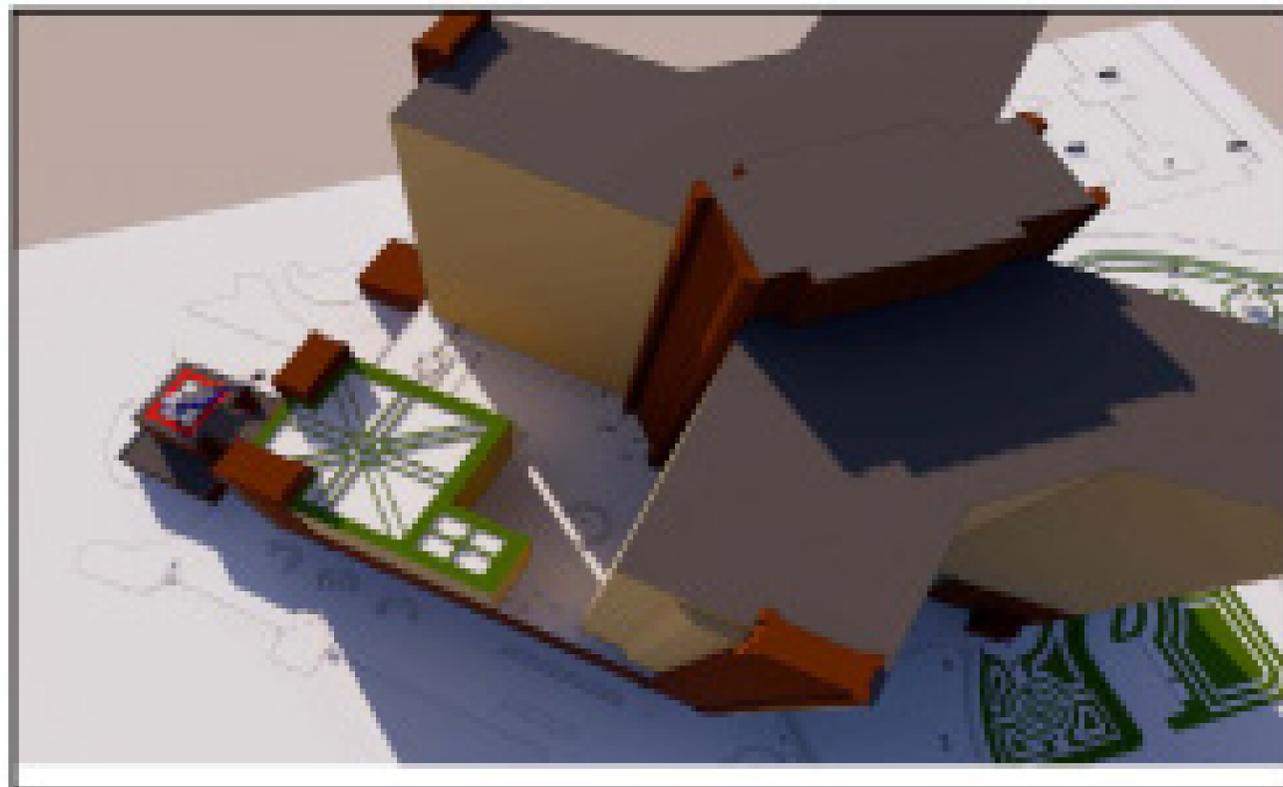
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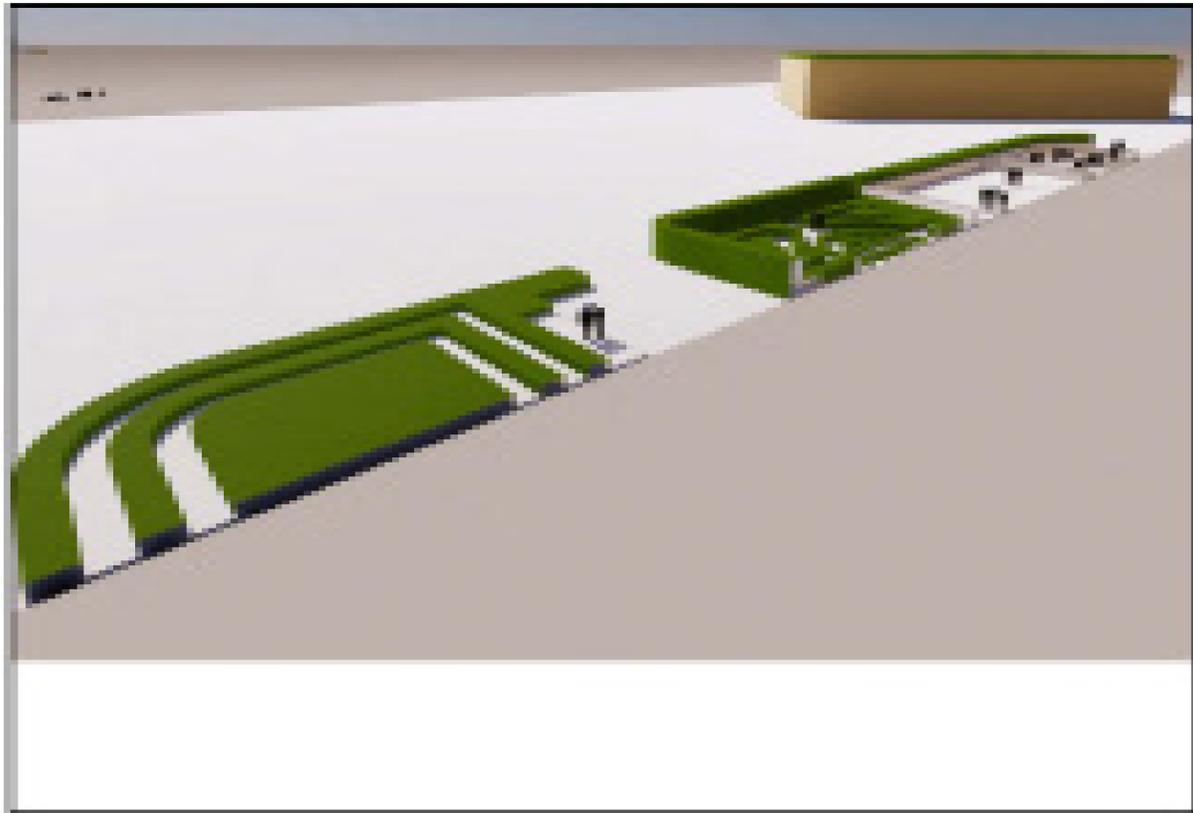
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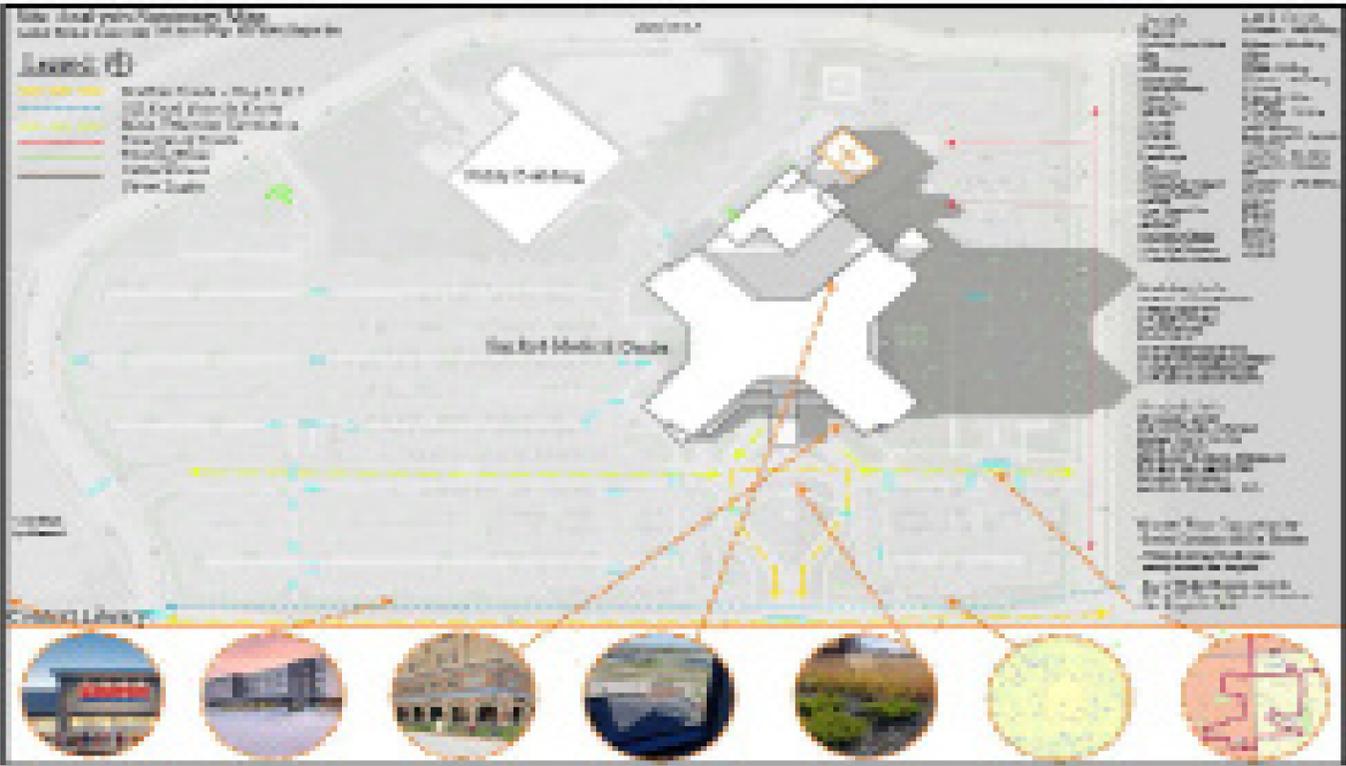
How can a Landscape Architect create a network of beautiful outdoor gardens to qualify the entire portion of the Upper Medical Center and pedestrian sub-projects of Design, that provide healing to the site, the patients, and the caregivers?

The success and value of any health facility comes from the architecture, facilities, medical staff, and staff. To transfer these ideas into the landscape, the landscape team is the entire experience of a hospital: measurable, welcoming, and desired. The Sanford Medical Center is the project site but the design will be applicable to any health facility, through the use of usability, accessibility, resident, quiet, education, fitness, view, recreation, healing, and education. The best values of Family, Community, Service, and Architecture will help influence all aspects of design and help create spaces inside the hospital to drive the connection together.

2



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Mixed Method Research was done through the use of descriptive-comparative case studies, topological research, historical analysis and a user-performance survey. The user-performance survey will help to assess user-specific site design details such as plantings, colors, textures, forms and spaces, outdoor structures, sustainability use, and more.

- "Formal garden structure"
- "Water feature - uniquely situated"
- "Many plants are in all, variety of textures that enhance"
- "Impassioned need for more, better, or different plant materials"
- "Special use for existing planting beds"
- "Consider new outdoor features"
- "Open specific vegetation being introduced for birds"

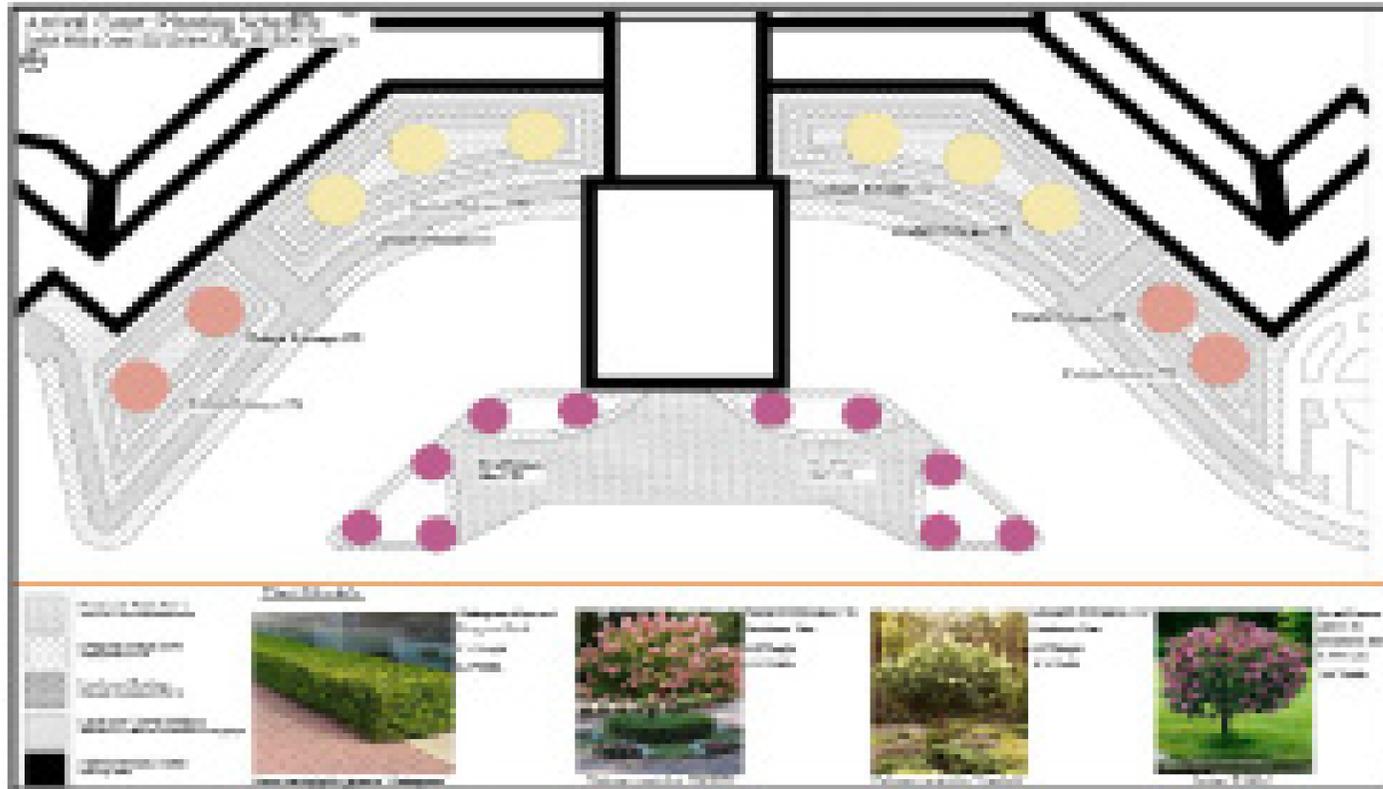
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- Design Goals
- Site Goals
- School, connected with water, adjacent
- Water Feature (Fountain)
- Scalable Plant System (Multiple Trees & Shrubs)
- Plant Size
- Design Details (e.g. Form)
- Flower Color & Form
- Form & Leaf Detail
- Flowering Plant (e.g. Perennials)
- Wood, Concrete, Stone

8



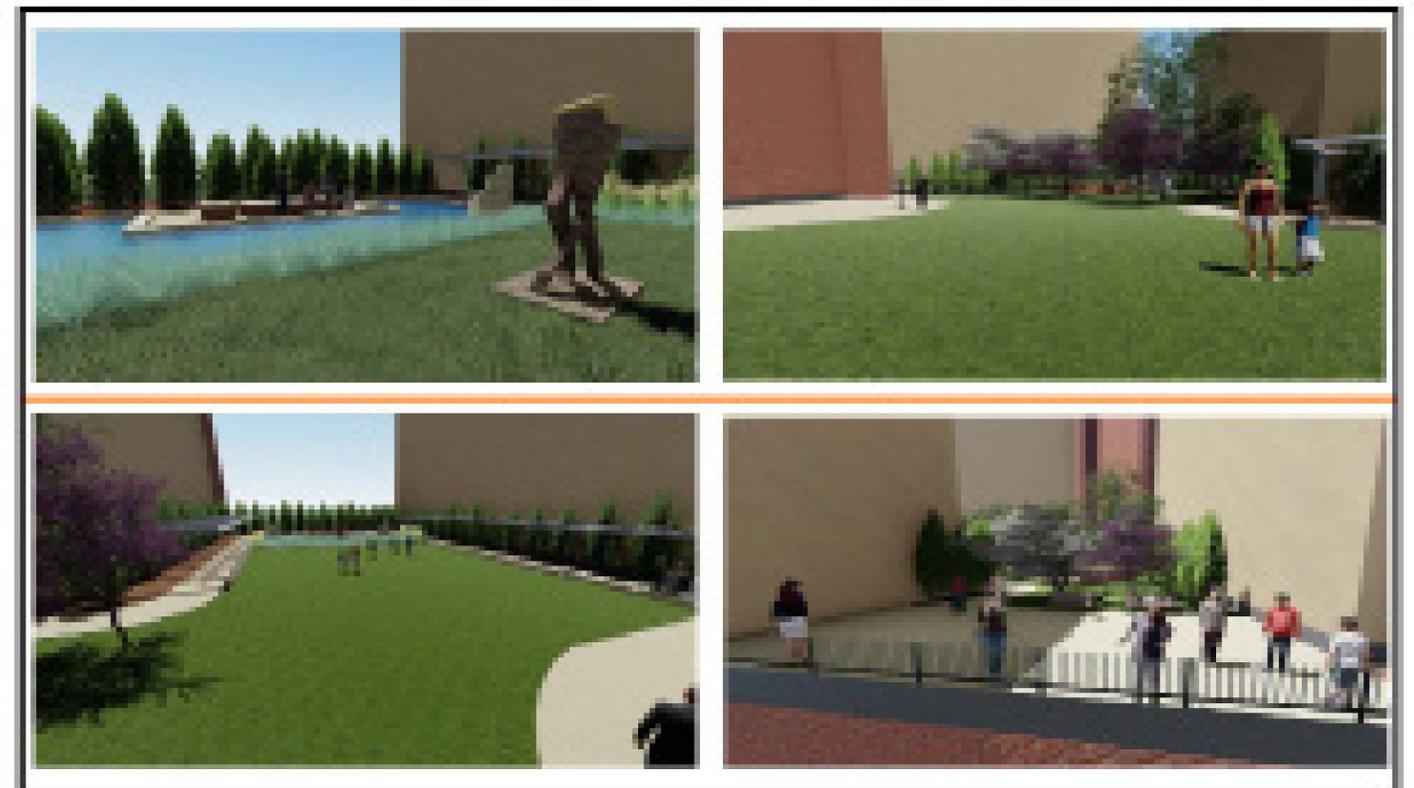
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Hospital Campus Gardens & Therapeutic Spaces

Randall Medical Center, Fargo, ND

1



How can a landscape architect create a variety of hospital campus gardens inspired by the architecture of the Stone Hill and Regis and St. Joseph's hospitals?

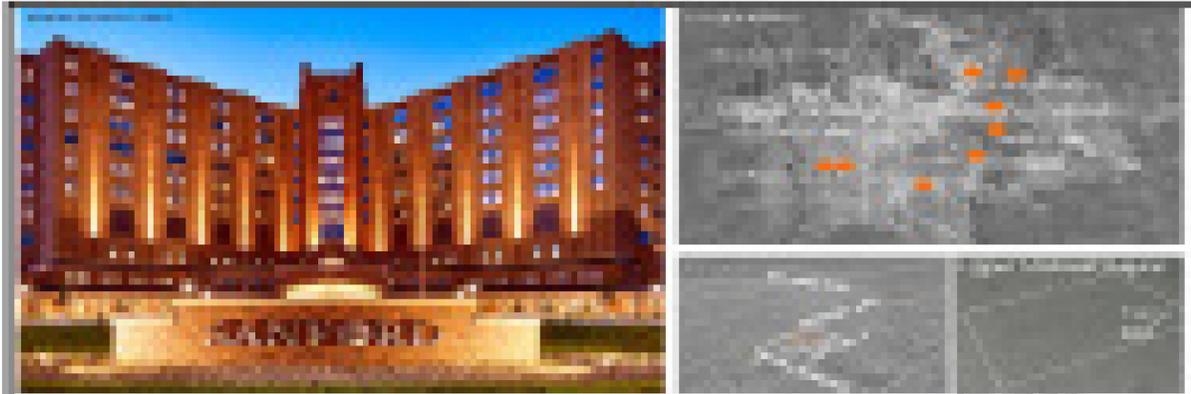
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Visual Material Research

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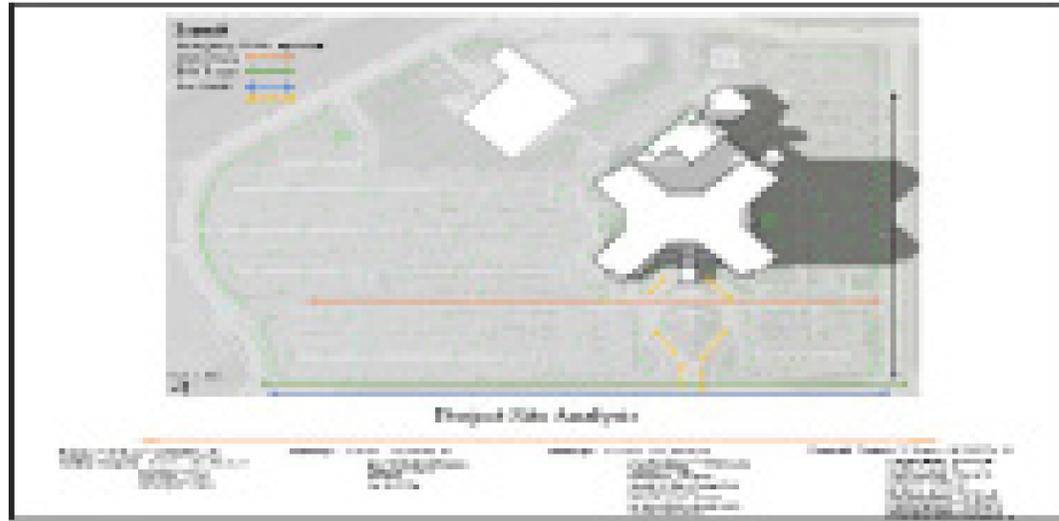
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Project Site

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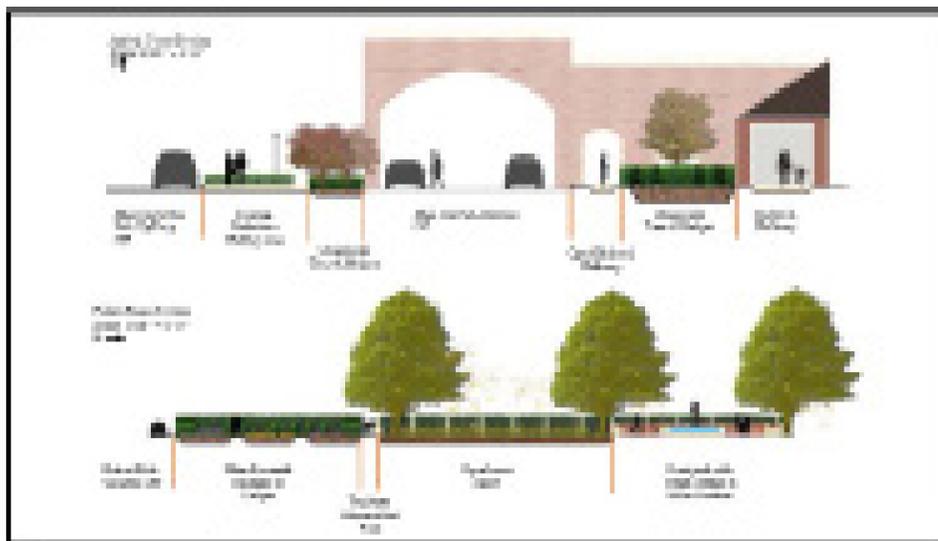
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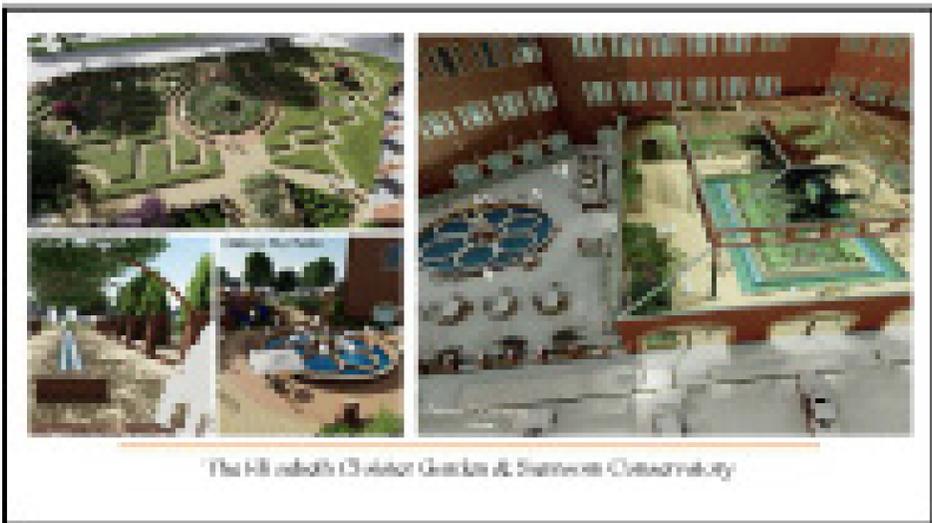
The Found Garden

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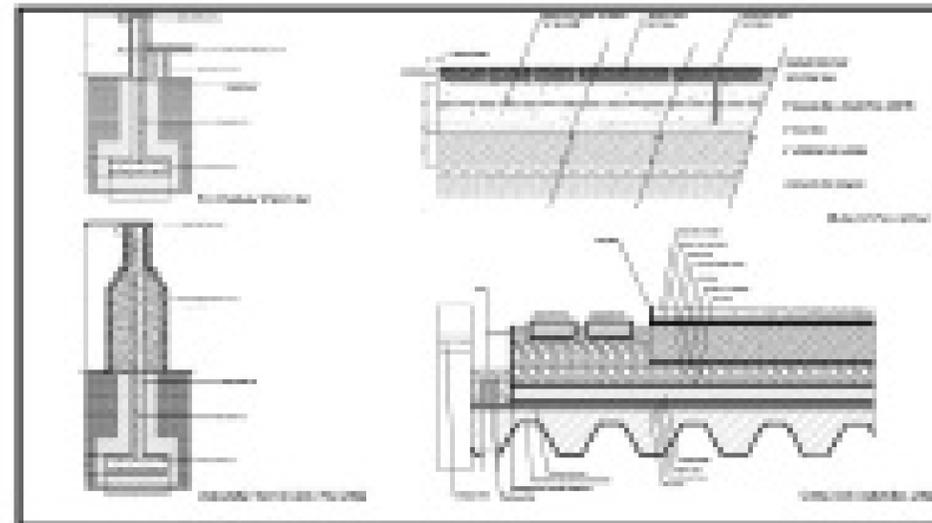
Fountain Plaza, Rainfall Garden, Prairie View Garden & Triple East Garden

14



The Hillside's Visitor Garden & Service Courtway

15



16

Planting Schedule:

Scientific Name:	Common Name:	Height:	Width:	Container Size:	QTY:	Price:	Total:
Trees: Deciduous & Evergreen (naturehills)							
Betula platyphylla	Japanese White Birch	30-40'	15-25'	#5 - 3.6 Gallons	6	104.9	\$630.00
Betula papyrifera	Paper Birch	50-70'	35'	#5 - 3.6 Gallons	12	87.9	\$1,054.80
Malus x 'Indian Magic'	Indian Magic Crabapple	15-20'	15-20'	#7 - 6.08 Gallons	3	104.9	\$314.70
Malus pumila 'John Downie'	'John Downie' Crabapple	10'	10'	#3 - 2.76 Gallons	10	71.9	\$719.00
Malus x robusta 'Red Sentinel'	Red Sentinel Crabapple	10'	10'	#3 - 2.76 Gallons	5	71.9	\$359.50
Malus x 'Prairiefire'	Prairiefire Crabapple	15-20'	15-20'	4-5' Bareroot	6	74.9	\$449.40
Malus x 'Spring Snow'	Spring Snow Crabapple	15-20'	15-20'	4-5' Bareroot	14	82.9	\$1,160.60
Malus 'Adirondack'	Adirondack Crabapple	15-18'	12-16'	4-5' Bareroot	4	87.9	\$351.60
Malus 'Purple Prince'	Purple Prince Crabapple	15-20'	15-20'	4-5' Bareroot	6	82.9	\$497.40
Prunus cerasus 'Early Richmond'	Early Richmond Cherry	18'	30'	#7 - 6.08 Gallons	9	87.9	\$791.10
Cornus kousa	Kousa Dogwood	15-25'	25'	4-5' Bareroot	10	74.9	\$749.00
Cercis canadensis	Eastern Red Bud	20-30'	25-35'	#3 - 2.76 Gallons	10	71.9	\$719.00
Hydrangea paniculata 'SMHPFL'	Firelight Hydrangea STD	6-8'	6-8'	#3 - 2.76 Gallons	10	71.9	\$719.00
Hydrangea paniculata 'Limelight'	Limelight Hydrangea STD	6-8'	6-8'	#3 - 2.76 Gallons	10	71.9	\$719.00
Hydrangea paniculata 'SMHPLQ'	Quickfire Hydrangea STD	6-8'	6-8'	#3 - 2.76 Gallons	8	71.9	\$575.20
Syringa 'Palibin'	Dwarf Korean Lilac STD	4-6'	5-8'	#5 - 3.6 Gallons	9	87.9	\$791.10
Syringa pubescens subsp. Patula 'Miss Kim'	Miss Kim Lilac STD	6-7'	5-6'	#5 - 3.6 Gallons	10	87.9	\$879.00
Tilia Americana	Basswood Linden	50-70'	30-50'	5-6' Bareroot	10	79.9	\$799.00
Tilia tomentosa	Silver Linden	50-70'	25-35'	5-6' Bareroot	12	79.9	\$958.80
Acer glabrum	Paperbark Maple	25'	15-20'	#1 Container	6	62.9	\$377.40
Acer rubrum	Red Maple	40-60'	40-60'	#1 Container	14	62.9	\$880.60
Acer saccharum	Sugar Maple	50-70'	30-45'	#1 Container	14	62.9	\$880.60
Prunus cerasifera	Purple Pony Plum	15-20'	15-20'	#5 - 3.6 Gallons	12	87.9	\$1,054.80
Amerlancheier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	20-25'	10-15'	#5 - 3.6 Gallons	8	100.9	\$807.20
Amelanchier sanguinea	Roundleaf Serviceberry	10'	6'	#3 - 2.76 Gallons	8	87.9	\$703.20
Chionanthus retusus	Chinese Fringe Tree	15'	10-12'	4-5' Bareroot	15	74.9	\$1,123.50
Cotinus coggygia	Royal Purple Smoke Tree	15-20'	15-20'	4-5' Bareroot	9	82.9	\$746.10
Thuja occidentalis 'Degroot's Spire'	Degroot's Spire Arborvitae	18-20'	4-5'	#7 - 6.08 Gallons	30	56.9	\$1,707.00
Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae	15'	3-4'	#5 - 3.6 Gallons	20	40.9	\$818.00
Shrubs: Deciduous & Evergreen							
Ribes alpinum	Alpine Currant	3-5'	5-6'	#3 - 2.76 Gallons	200	69.9	\$13,980.00
Sambucus nigra 'Gerda'	Black Beauty Elderberry	10'	10'	#5 - 3.6 Gallons	20	48.9	\$978.00
Euonymus alatus 'Compactus'	Dwarf Burning Bush	6-8'	8-10'	#3 - 2.76 Gallons	20	44.9	\$898.00
Hydrangea macrophylla 'PIHM-1'	'Twist-N-Shout Endless Summer Hydrangea	3-5'	3-5'	#3 - 2.76 Gallons	15	81.9	\$1,228.50
Hydrangea paniculata 'Renyh'	Vanilla Strawberry Hydrangea	6-7'	4-5'	#3 - 2.76 Gallons	15	74.9	\$1,123.50
Syringa pubescens subsp. Patula 'Miss Kim'	Miss Kim Lilac	6-7'	5-6'	2-3' Bareroot	25	34.9	\$872.50
Rhus glabra 'Jefam'	Amber Jubilee Ninebark	5-6'	4-5'	#3 - 2.76 Gallons	30	82.9	\$2,487.00
Spiraea japonica 'SMNSJMFR'	Double Play Red Spirea	2-3'	1-4'	#3 - 2.76 Gallons	30	71.9	\$2,157.00
Spiraea thunbergii 'Ogon'	Mellow Yellow Spirea	3-5'	3-6'	#3 - 2.76 Gallons	20	71.9	\$1,438.00
Spiraea behnifolia 'Tor'	Tor Birchleaf Spirea	3-4'	3-4'	#3 - 2.76 Gallons	40	71.9	\$2,876.00
Thuja occidentalis 'Hetz Midget'	Hetz Midget Arborvitae	3-4'	3-4'	#2 - 1.76 Gallons	50	87.9	\$4,395.00
Buxus microphylla japonica 'Wintergreen'	Wintergreen Boxwood	4-5'	4-5'	#1 - 3.73 Gallons	50	54.9	\$2,745.00
Vines: Deciduous							
Clematis 'Innocent Blush'	Innocent Blush Clematis	6'	3-4'	1 Quart Container	20	41.9	\$838.00
Hedera helix	English Ivy	20-80'	3-5'	#1 - 3.73 Gallons	30	56.9	\$1,707.00
Wisteria macrostachya 'Summer Cascade'	Summer Cascade Wisteria	15-25'	4-8'	1 Quart Container	20	41.9	\$838.00
Perennials:							
Symphoricarpos novae-angliae 'Purple Dome'	Purple Dome Aster	1-2'	2-3'	#1 - 3.73 Gallons	35	48.9	\$1,711.50
Monarda fistulosa	Bee Balm	2-4'	2-3'	#1 - 3.73 Gallons	20	43.9	\$878.00
Rudbeckia 'Goldsturm'	Black Eyed Susan	1-2'	1-2'	#1 - 3.73 Gallons	40	47.9	\$1,916.00
Dicentra cucullaria	Dutchman's Breeches Bleeding Heart	2-3'	2-3'	#2 - 1.76 Gallons	25	66.9	\$1,672.50
Asclepias tuberosa	Butterfly Weed	2-3'	2-3'	#1 - 3.73 Gallons	50	56.9	\$2,845.00
Aquilegia canadensis	Wild Columbine	2-3'	1-2'	#1 - 3.73 Gallons	25	39.9	\$997.50
Echinacea 'Green Jewel'	Green Jewel Coneflower	1-2'	1-2'	1 Quart Container	30	41.9	\$1,257.00
Echinacea x 'Balsomcor'	Sombrero Hot Coral Coneflower	2-3'	1-2'	#1 - 3.73 Gallons	20	48.9	\$978.00
Echinacea purpurea POW WOW 'PAS702918'	PowWow White Coneflower	2-3'	1-2'	#1 - 3.73 Gallons	35	44.9	\$1,571.50
Thymus praecox 'Highland Cream'	Highland Cream Thyme	2-4"	6-12"	1 Quart Container	60	34.9	\$2,094.00
Hemerocallis 'Happy Returns'	Happy Returns Daylily	1-2'	1-2'	#1 - 3.73 Gallons	30	48.9	\$1,467.00
Hemerocallis 'Little Grapette'	Little Grapette Daylily	1-2'	2-3'	1 Quart Container	30	39.9	\$1,197.00
Hemerocallis 'Siloam Peony Display'	Siloam Peony Display Daylily	1-2'	1-2'	#1 - 3.73 Gallons	50	48.9	\$2,445.00
Delphinium 'Pink Punch'	Pink Punch Delphinium	3-5'	1-2'	1 Quart Container	40	41.9	\$1,676.00
Hibiscus moscheutos 'Perfect Storm'	Perfect Storm Hibiscus	3'	5'	#1 - 3.73 Gallons	60	56.9	\$3,414.00
Hosta seiboldiana 'Elgans'	Elegans Hosta	2-3'	4-5'	1 Quart Container	30	41.9	\$1,257.00
Hosta 'Golden Tiara'	Golden Tiara Hosta	6-12"	2-3'	#1 - 3.73 Gallons	25	48.9	\$1,222.50
Hosta 'Regal Splendor'	Regal Splendor Hosta	2-3'	2-3'	#1 - 3.73 Gallons	35	51.9	\$1,816.50
Baptisia australis	Blue False Indigo	3-4'	3-4'	#1 - 3.73 Gallons	20	43.9	\$878.00
Penstemon digitalis 'Blackbeard'	Blackbeard Penstemon	2-3'	2'	1 Quart Container	25	41.9	\$1,047.50
Salvia nemorosa 'Caradonna'	Caradonna Salvia	2-3'	1-2'	#1 - 3.73 Gallons	15	48.9	\$733.50
Sedum SUNSPARKLER 'Lime Zinger'	Lime Zinger Sedum	6"	1-2'	#1 - 3.73 Gallons	10,000	41.9	\$419,000.00
Sedum 'Matrona'	Matrona Sedum	1-2'	1'	#1 - 3.73 Gallons	12,000	48.9	\$586,800.00
Sedum SUNSPARKLER 'Dazzleberry'	SunSparkler Dazzleberry Sedum	8"	1-2'	#1 - 3.73 Gallons	15,000	48.9	\$733,500.00
Achillea x 'Moonshine'	Moonshine Yarrow	1-2'	1-2'	#1 - 3.73 Gallons	50	48.9	\$2,445.00
Ornamental Grasses:							
Andropogon gerardi	Big Bluestem	4-6'	2-3'	#1 - 3.73 Gallons	40	48.9	\$1,956.00
Helictotrichon sempervirens	Blue Oat	1-2'	1-2'	#1 - 3.73 Gallons	60	47.9	\$2,874.00
Festuca glauca 'Elijah Blue'	Elijah Blue Fescue	1'	1-2'	#1 - 3.73 Gallons	80	48.9	\$3,912.00
Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster	4-5'	1-2'	#1 - 3.73 Gallons	60	56.9	\$3,414.00
Sporobolus heterolepis	Prairie Dropseed	2-3'	1-2'	#1 - 3.73 Gallons	30	51.9	\$1,557.00
Andropogon gerardi 'Red October'	Red October	4-8'	2-3'	#3 - 2.76 Gallons	40	72.9	\$2,916.00

TOTAL: \$1,860,000.00

Structures Preliminary Cost:

Item:	Product:	Texture & Color:	Manufacturer:	Height:	Width:	Length:	QTY:
Landscape:							
Vegetation	Trees, Shrubs, Perennials & Ornamental Grasses	Varying	Nature Hills Nursery				38,950
Mulk/Aggregate	Shredded Wood Chips & Buff Limestone	Brown/Tan	Hoffman Bros. Sod Inc.		3/4"		70,000
Edging	TerraEdge (14GA) Steel - Hairpin Stake	Galvanized Steel - Silver	Coyote Landscape Products	6"	14 Gauge	10ft	700
Weed Barrier	Polypropylene Landscape Fabric	Black	Hoffman Bros. Sod Inc.				70,000
Soil	Top Soil	Black	Hoffman Bros. Sod Inc.				
Turf	Rolls of Sod	Kentucky Bluegrass	Hoffman Bros. Sod Inc.	22,880 2'		5'	2,288
Hardscap e							
Outdoor Pavers	Promenade Flank Paver Skyline Paver Cobble Stone Paver	Smooth Finish - Sandstone Smooth Finish - Chamois Soft Edge - Beechwood	Unilock Unilock Rochester	6" 2" 4"	8" 24" 6"	24" 24" 11"	200,000 60 80,000
Outdoor Free Standing Wall	Whole Brick - Modular Strassen Wall Cap	Velour - Red River Blend Limestone	Hetton Brick Borgert	2 1/4" 2 1/2"	3 5/8" 11"	7 5/8" 30"	5,000 700
Fire Pit	Strassen Wall Trapezoid Fire Kit Strassen Precast Fire Kit Cap	Minnesota River Smooth Edge Flat - Limestone	Borgert Borgert	12" 2 1/4"	3" 24"	24" 24"	1 8
Water Fountain	Whole Brick - Modular Strassen Wall Cap	Velour - Red River Blend Limestone	Hetton Brick Borgert	2 1/4" 2 1/2"	3 5/8" 11"	7 5/8" 30"	1,000 700
Lighting:							
Outdoor Post Lantern	Inlander Outdoor 1-Light 80" Post Light	Black Metal/Plastic	Perigold	80"	14"	14"	30
Spot Light	Hardwired Spot Light	Bronze	Perigold	6.3"	3.8"	8.75"	70
Pathway Light	Atlanta 1 Light LED Pathway Light	Bronze	Perigold	22"	6.5"	1.8"	150
Well Light	Wall Light - High Powered LED	Bronze	Perigold	6.25"	4.63"	4.63"	50