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Public Horticulture: Process and Design of the Lincoln Botanical Garden

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PUBLIC HORTICULTURE: PROCESS AND DESIGN OF THE LINCOLN BOTANICAL GARDEN

BRAD KINDLER

ABSTRACT

Beginning in 2012, the local non-profit, The Lincoln Botanical Garden, began organizing the conceptual design and creation of a glass conservatory within a botanical garden in Lincoln, Nebraska. These proposed urban enhancements seek to fill a gap in garden amenities in the city by providing year-round access to public horticulture programming and education.

This project, Public Horticulture: Process and Design of the Lincoln Botanical Garden, documents these efforts and makes design recommendations for a themed Glacial Erratic Garden that could be constructed within the botanical garden.

PUBLIC HORTICULTURE

Public Horticulture encompasses the display of plants in landscapes for the attention and enjoyment of the general public. These areas include both public and private locations such as city parks, shopping malls, arboretums, botanical gardens, hotel grounds, and recreational facilities.¹ Administering these locations requires a working knowledge of design, seasonal management, plant materials, and a dedication to both the function and beauty they contain.



VanDusen Botanical Garden - Vancouver, BC, Photo - Brad Kindler

BOTANICAL GARDEN

A botanical garden is an organized institution that maintains collections of plant species for the purposes of public education, enjoyment, biodiversity conservation, higher learning and scientific research.² It is mission and vision driven and responds to the mandate of its guiding ethics and management team. It is regularly open to the public and often programmed with educational or artistic exhibitions integrated into the plantings. A botanical garden's resources should seek to grant access and accommodation to all visitors working on behalf of both plants and people.¹

1. American Public Garden Association - https://www.publicgardens.org

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The below project sections represent original work and design. However, no large work is ever accomplished with out the input and assistance from many willing contributors. To that end I would like to thank the Board of Directors of the Lincoln Botanical Garden for their patience and assistance in the development of this project. Their input and openness to collaborate is greatly appreciated and it is my sincerely hope that this project helps to move the pursuit of a botanical garden in Lincoln further down the path towards construction.

I would also like to thank my Thesis Advisors Ellen Paparozzi and Sam Wortman, and my Thesis Committee members Chuck Francis and Kim Todd for their instruction, edits, and patience.

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THESIS ADVISORY COMMITTEE

Chuck Francis Ellen Paparozzi Kim Todd Sam Wortman

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GARDEN CONNECTIONS

How did I become involved?

In 2018, I initially became interested in the idea of helping to develop a botanical garden in Lincoln after working on a similar project during graduate school in Tucson, Arizona. There, I worked with various community members and project supporters to enhance the development of the newly established Mission Garden, whereby historical food crops and techniques of arid adapted agriculture were demonstrated. I knew that after graduation I would be moving back to Lincoln, and my experience helping to support Mission Garden in Tucson demonstrated to me the positive impact that organizing a botanical garden in an urban area can have. There are opportunities to forge relationships with farmers, flower growers, youth groups, volunteer organizations, non-profits, faith communities, educational programs, business leaders, politicians, and lovers of plants. It was exciting to me to imagine these types of connections being made in Lincoln. After communicating with some previous contacts I had at Lincoln's Community CROPS project about botanical garden developments in Lincoln, I was directed to connect with retired UNL pathologist and Lincoln Botanical Garden (LBG) board president Anne Vidaver.

Anne was very accommodating to my unsolicited inquiries to assist with the development of the garden. After a few email exchanges, we set up a time to discuss the project and met in her East Campus office. Here I was able to introduce myself, and my recent graduate work in Landscape Architecture, and how I felt I could be of benefit to the development of the botanical garden and conservatory in Lincoln. At least partially convinced of my enthusiastic motivations, Anne invited me to attend a board meeting where I was then able to connect with the wider board of directors and hear about the history of the organization and current developments. After attending a few in-person meetings I was asked to join the board and graciously accepted the invitation, knowing that a project such as this will require a large community of talents and champions to make happen.

After about a year on the LBG board I decided to pursue the online MS in Horticulture at UNL, with an emphasis on Public Horticulture. The required coursework, and my continued association with the Lincoln Botanical Garden, led me to pursue this thesis project as a culmination of my graduate study.



Santa Barbara Botanical Garden - 2022



Jardín Etnobotánico de Oaxaca - 2022









LBG Board East Campus site visit - Summer 2023





CASE STUDIES

The following three garden Case Studies represent botanical gardens that serve as good comparisons to a potential botanical garden in Lincoln, Nebraska. First, the gardens represented all contain a conservatory, which will be a main feature in any garden built in Lincoln. Secondly, the total acreage of each garden is modest and fits within a site area of 16-acres or less. Lastly, these gardens are found in cities with a similar population size to Lincoln and are in a similar growing zone, USDA Plant Hardiness Zone 5.



ittps://longwoodgardens.org/gardens/conservate ry-district/east-conservatory

GREATER DES MOINES BOTANICAL GARDEN

DES MOINES, IOWA

Mission: Exploring, explaining and celebrating the world of plants.

Vision: The Greater Des Moines Botanical Garden is a vibrant, twelve-acre public garden in the heart of downtown Des Moines, providing an enduring guest experience through progressive design, innovative programming and dynamic exhibits.¹

Declining revenues in the early 2000's caused the City of Des Moines to consider closing the garden. However, subsequent infrastructure updates and the development of the nonprofit, Greater Des Moines Botanical Garden, reinvigorated the garden and funding was secured for the expansion and implementation of a master plan developed by Hoerr-Schaudt Landscape Architects in 2009. Annual operational support includes \$200,000/yr from the City of Des Moines and a \$200,000 inkind contribution from Des Moines Water Works.

In 2021-2022 the Greater Des Moines

Botanical Garden welcomed over 134,064 visitors. Additionally, they offered both adult and youth educational programming that reached over 11,000 individuals. Examples of their youth centered programming includes a Plant Pet Program, whereby 19 classrooms in 3 different schools were gifted a pet plant for inspiration in science and hands-on learning lessons. It is estimated that this programming has reached over 2,500 Des Moines area students.³



Geodesic Domed Conservatory Interior

Conservatory Size: Geodesic dome, 80ft wide and 150ft tall.

Total Acreage: 12-acres

City Population: 212,031

As with all public space, the idea for the Greater Des Moines Botanical Garden began many years prior to its construction. In 1929, local garden clubs become leading advocates for a botanical garden. Several attempts to begin the project over the next few decades never produce material outcomes. However, in 1966 the City of Des Moines purchased an 14-acre brick-yard, becoming the future garden site.² It wasn't until the late 1970's that networking, fundraising, and architectural design produced the iconic geodesic dome at a cost of more than \$3 million dollars.



Photo sources: https://dmbotanicalgarden.com



These types of creative outreach programs strengthen the botanical garden's reputation in the wider community. As a result, it is estimated that over 1 million visitors have been to the Greater Des Moines Botanical Garden since 2013.4

Plant collections include Bonsai, Coleus / Plectranthus, and Orchids. Themed outdoor gardens are all named for lead donors and include the follows plant themes:

- Conifer garden
- Savanna garden
- Asian garden
- Tree canopy allée
- Water garden
- Rose Garden

Additional installations of art and sculpture, as we all public performance space, have been integrated into the garden design to great acclaim.

References

- 1,2. https://dmbotanicalgarden.com/about/mission-v
- 3,4. Impact Report https://dmbotanicalgarden.com/ wp-content/uploads/2023/05/2021-2022-Im pact-Report-Digital.pdf

OLBRICH BOTANICAL GARDENS

MADISON, WISCONSIN

Mission: Enrich lives and inspire people to live in harmony with the natural world.

Vision: Olbrich Botanical Gardens will be a locally treasured and globally renowned source of beauty and knowledge celebrating the importance of plants to foster a sustainable world.¹

Conservatory Size: Glass pyramid 100' x 100' base and 50' tall

Total Acreage: 16-acres

City Population: 269,196

The Olbrich Botanical Gardens are operated through a partnership between the City of Madison Parks Division and the complementary non-profit, Olbrich Botanical Society (OBS). Annual fundraising by OBS of \$2 million allows for the gardens to be free and open to public with over 340,000 visitors logged annually. Guiding principles of the gardens include a commitment to inclusion and accessibility, responsible financial stewardship, climate and environmental advocacy, local partnerships, and life-long learning. Additionally, the garden notes a Land Acknowledgment in recognition of the indigenous Ho-Chunk people, who were the original stewards and gardeners of the site where the botanical garden now grows.

The Bolz Conservatory features a subtropical and tropical plant collection that contains more than 650 plants, with 475 different species found in 80 different plant families. The conservatory contains a waterfall feature, an orchid collection, and also has three different free flying bird species including canaries, Corurnix quail, and waxbills. Additionally, several common tropically grown foods are found in the conservatory including bananas, coffee, and vanilla.

In addition to the conservatory, Olbrich Botanical Gardens has 19 different outdoor display gardens including:

- Sunken garden
 - Shade garden
- Meadow garden
- Dry garden •

•

• Woodland garden

Herb garden

- Rain and Gravel garden
- Perennial Garden
- Birch Walk •
- Royal Thai Pavilion and garden



Autumn Garden

In 1920, Madison attorney Michael B. Olbrich hired renowned landscape architect O.C. Simonds to create a plan for a park and flower garden that was nearby to Lake Monona. Over the course of many years and developments this original park and garden concept matured into the present day Olbrich Botanical Garden. Notably, in 1952 money was raised to construct the dedicated "Olbirch Park Gardens," containing twin-fieldstone shelters and a Rose Mall. Master planning in 1975 updated conceptual project ideas and in 1991 the Bolz Conservatory was constructed for a cost of \$4,600,000.² Continued efforts at themed garden expansion and visitor infrastructure have developed many more gardens and a world class garden experience for visitors. As a result of these expansion efforts and subsequent care, the Olbrich Botanical Garden was given the Award of Garden Excellence from the American Public Garden Association.





Serenity garden

- Autumn garden
- Moonlight meadow
- Fox Sedge meadow
- Event garden
- Tower garden
- Long walk garden
- Prairie Dropseed meadow •
- Children's Kitchen garden

It should be noted that the Children's Kitchen garden contains vegetables, herbs, and other culinary species. This garden serves as an outdoor learning environment for kids and families and allows them a hands-on learning environment where they get in touch with their food and how it grows. There is facilitated summer programming associated with this garden and any extra produce generated from the space is donated to an area food bank.³

Other educational programming offered at the garden includes, adult workshops, guided tours, summer camps, community reading groups on nature themes, and a virtual lecture series featuring inspiring speakers.

References:

- 1. https://www.olbrich.org/about
- 2. https://www.olbrich.org/our-history
- 3. https://www.olbrich.org/explore

QUAD CITY BOTANICAL CENTER

ROCK ISLAND, ILLINOIS

Mission: Bringing people and plants together in fun and meaningful ways.

Vision: To provide collections and exhibits that promote the beauty and enjoyment of plants. To increase botanical and horticultural knowledge through education. To encourage ecological concern for the plants that sustain us. To inspire citizens to improve their environment.

Conservatory Size: 6,444 square feet. 70 ft tall at peak.

Total Acreage: 5 - acres

Population: 381,342 (Davenport, Bettendorf, Rock Island, Moline)

Adjacent to the Mississippi River, The Quad City Botanical Center is based in Rock Island, Illinois, but also serves the community of Moline in Illinois, and Davenport and Bettendorf in Iowa. The gardens were conceptualized in the 1980's, first as a large handicapped accessible conservatory, but then expanded to include educational garden themes and programming to the wider community as a botanical center.¹ In June of 1998, the center opened along with the \$3.85 million showpiece, a 70ft tall atrium conservatory. The building contains a tropical plant Sun Garden, koi pond, and 14ft waterfall. Additionally, the building houses staff offices, and banquet and rental rooms that help generate income for garden.

Since community lead listening sessions produced an expanded emphasis on a Children's Garden, the Quad City Botanical Center now welcomes over 10,000 students annually. Additional focus on children's programming is extending beyond the current waterbased play features of the Children's Garden, kids age K - 3rd grade, and will expand into a new \$750,000 project called the Storybook Garden, designed with older kids in mind. This garden will focus on two important educational themes, nature and literacy. By integrating children's books and nature play, the garden hopes to expand each

family's visit by and estimated 15 to 20 minutes. The innovative project has been entirely funded by the Illinois Department of Natural Resources' Museum Capital Grant Program.¹

Other themed gardens that can be experienced at the Center include:



https://www.myjournalcourier.com/news/article/rock-island-botanical-garde



Photo Sources: https://www.gcgardens.com/#/ - Children's Garden

Since its inception The Quad City Botanical Center has been a 501(c)(3) non-profit organization. A large portion of financing and development dollars have been provided by local philanthropic foundations including the Quad-City Conservation Alliance who helped with original conservatory funding. In 2007, a \$5 million dollar expansion was proposed through an updated master plan process. However, financial concerns for the garden were real and effort was redirected into better understanding what types of experiences people wanted and what could help pay the bills. Public comment sessions revealed that a Children's Garden would be a welcomed attraction, and Winter Lights programming was added increasing off-season attendance by 500%. Additional financial support came from the Quad-Cities Trust through a sustained unrestricted donation of 10-15% of the of the Botanical Center's annual budget.1



Tropical Sun Garden



25th-18156004.php

- Rare Conifer Collection
- Ability Garden
- Goldfish Pond / Aquatic Plants
- Greenhouse
- Pat's Woodland Garden
- Railway Exhibit
- **Butterfly Pergola**
- Wildflower Prairie Garden
- Perennial Garden
- Scrambled Alphabet Garden
- Tropical Sun Garden
- Children's Garden

In addition to the various themed gardens, "Featured Exhibits" are also common programming and include a cactus exhibit, additional children's programming, and Plants of the World. The last exhibit being an exploration of the diverse plants found at the Quad City Botanical Center and their relationship and use to the diverse communities of new Americans that now call the Quad City region their home.²

References

- 1. https://gctimes.com/news/local/business/botanicalcenter-celebrates-25-years-on-high-note/article eefd75ac-6539-5458-a7a1-7b4ba5cc9b5b.html
- 2. https://www.qcgardens.com/#/

CASE STUDY CONCLUSIONS

After extensively reviewing the websites and other publicly available material on the three case study botanical gardens, I have organized my learning into several conclusions that may be helpful to the development of a future Lincoln Botanical Garden. These conclusions reveal opportunities for shared overlap in garden concept development and strategic planning, funding, themed garden development, and community buy-in. They are listed in what I feel is an order of importance for consideration.

All of the three gardens developed and operate in context of partnership with other foundations, city parks offices, or local industry. These partnerships have proven critical to the development of expanding garden infrastructure or programming through fundraising and public awareness. Partnerships are also evident in relationship between how the city presents and advertises itself through the beautiful and attractive images of these botanical gardens.

MISSION AND VISION

Reading through the Mission and Vision statements of the three gardens reveals a necessary textual connection between people, plants, and the health of the environment. The connection can be made through garden programming, on-site education, or the inspiring nature of the facilities. However, all of the statements seek to present an expansive vision of the garden for the benefit of both guest and nature.

FINANCING

Reviewing the timelines of how the gardens developed it is clear that there were periods of financial uncertainly for the properties that resulted in a reaffirming of local interest and subsequent reinvestment in the spaces. This reinvestment through foundation, private, and public funding established infrastructure and programming that turned the gardens back into desirable cultural attractions. That is not to say that all of these gardens operate at a profit, but that whatever loss is incurred is subsidized through support from the philanthropic community through fundraising and grants.

CONSERVATORY FIRST

These three gardens are all supported by a large and innovative conservatory structure. Alone they are works of architectural art, however when coupled with tropical plant collections, water features, year-round programming and advertising they become local landmarks. The height of the structures range from 50 - 150ft, and include a diverse complement of trees and tropical vegetation that can be enjoyed year-round. This is especially true in the winter months as all of the conservatories are in temperate regions representing plant hardiness growing zone 5.

It should be noted that the conservatory was often the first part of the garden constructed and that subsequent expansions of outdoor themed gardens and public programming came at a later date.



Each case study garden website includes a detailed timeline and history on how the garden developed over the course of many years and through the efforts of dozens of supporters. It is instructive to note how many of these gardens took decades to come to fruition and even then it wasn't until many years after opening did expansion efforts set them on a path to financial and cultural success.

LOCATION

The location of a botanical garden is often associated with a benefactor who donated personal land or initiated the idea, and then holds the namesake of the garden, such is the case with Madison's Olbrich gardens. Gardens are also developed through the tireless efforts of local garden clubs and other horticultural civil society organizations. Such was the case in Des Moines when advocates partnered with the City of Des Moines to transform an old brick yard along the Des Moines River into a conservatory and themed gardens. I was unable to locate information on whether or not there was a cost to the botanical gardens for access to the land, however, it would be preferable to any garden project to obtain these areas for little or not cost.

THEMED GARDENS

Themed gardens vary widely across botanical gardens, however there are a few similarities worth noting. First, the conservatory always has a tropical display that showcases species that interest and excite people like bananas and large Strelitzia species, such as the Bird of Paradise flowers. There may be other tropical foods displayed in these gardens such as coffee, cacao, and vanilla as these provide educational opportunities for guests.

Outside of the conservatory and its displays, one theme that is shared between case study gardens is the emphasis on Children's Gardens and other kids programming. This point was emphasized in the review of the Quad City Botanical Center that staked its future growth on the development of a children's gardens. Other garden facilities emphasize children's programming through summer camps and other family friendly activities such as seasonal light displays and interactive garden exhibits.





https://dmbotanicalgarden.com/gardens/plant-collections/

https://www.olbrich.org/gardens/sunken-garden

ANNE VIDAVER INTERVIEW

As a way to both better understand and document the development of the Lincoln Botanical Garden, I asked LBG Board President some questions about her interest and advocacy for this idea. The following responses were provided by Anne to my questions, and have been edited for clarity and formatting.

Thank you Anne.

What was your original motivation for advocating for a botanical garden and conservatory in Lincoln?

I'd been to several conservatories and botanical gardens both in the U.S. and several countries in my professional career and on vacations. I thought UNL could sponsor one for conservation, recognition, populace of Lincoln and surrounding areas, and for me, a green spot for the months of the year in which the trees and grounds were brown and bare.

I'd especially liked the Madison, Wisconsin's Olbrich Gardens layout, sponsored by the city. I thought the size and plants under the conservatory were just right for Lincoln, and over the years I'd become a member of several plant groups, none of which had a home. These include the River City Cactus and Succulent Society, Omaha African Violet and Gesneriad Society, Nebraska Bonsai Society, and Lincoln Herbal Society. Plants in these organizations were not widely known nor conserved scientifically in Nebraska.

Other motivations include:

- A place for children and adults to see and smell unusual green plants year round
- A place for growing and saving exotic and endangered plants
- A contribution to the economy of Lincoln
- A destination for gardeners and vacationers
- A showcase for Lincoln and a place of green celebrations
- A drug-free doctor's remedy for overcoming depression
- A green space or the six months of the year we have none
- A congenial place for meetings, educational forums, weddings, etc.



Anne Vidaver (center) talking with designers - 2023

When did you have your first conversations about a botanical garden in Lincoln? Who were they with?

These conversations would have been prior to 2011. I'd had informal interactions with UNL Agronomy & Horticulture and Biology Departments, but neither expressed enthusiasm for pursuing the idea further. The response was that "it couldn't be done, people wouldn't support it."

What are some of the challenges you have had to overcome in advocating for this idea?

Plenty. Getting to be a bona fide charitable organization with the state and federal government, getting support from Lincoln Parks & Rec., getting help in support from a charitable foundation for our business plan. Continuing challenge of a prospective location. Getting a web page started and its upkeep. Getting funding for the Olsson workups. Disappointed with potential wealthy donors to date, but recognize at least some of the challenges in getting that to happen.

Why are plants significant in your life?

I have a curiosity regarding their function, form, and environments. I grew up in a slum in Poughkeepsie, N.Y., there the only plants I saw were trees and grass. I saw occasional flowers in the Vassar College garden, which we sometimes visited by bus as we never owned a car. I became interested in exotic ornamental plants when we moved to Lincoln 55 years ago and the owners of our house left us some plants, including African violets.

My favorite botanical garden for exotic plants and variety is Kew Gardens in London.

What types of plants would you include in a Lincoln Botanical Garden collection?

I would include the exotic and strange plants, including fragrant ones: e.g. orchids e.g. Bulbophyllum sp., and lots of gesneriads, e.g. Streptocarpus sp.

I would want to consult mid-Western conservatories regarding their collections, conservation challenges, sales and programming to cooperate and minimize overlap.





Design charrette at Olsson Studio - 2024

Initial Conceptual design discussions at Olsson Studio 2023

LINCOLN BOTANICAL GARDEN

DEVELOPMENT TIMELINE

The following timeline details the significant dates and accomplishments of the Lincoln Botanical Garden. This is noteworthy because as stated in the Case Study Conclusion section, the process of creating a botanical garden and conservatory often takes many years or even decades. The first year of note for the Lincoln Botanical Garden timeline is in 2011, with intermittent developments and activities occurring up through the present.

This timeline can help future supporters and researchers better understand how the project developed and who was involved. The timeline is a graphical representation and is not to scale.

Board OKs plant conservatory for Van Dorn Park



UGUST 16, 2015 11:30 AM · BY KEVIN ABOUREZK |

The city Parks and Recreation Advisory Boar likes the idea of a plant conservatory in a little used park near Nebraska 2 and Van Dorn Street

The board approved a proposal Thursday for conservatory in Van Dorn Park, although the plan's proponents say they must still complet a feasibility study and find money for the multimillion-dollar conservatory.

"It is, we think, a very good option," said boar member Bob Ripley

The conservatory could cost as much as \$15 million and take up about 12 acres of the 27acre park. It likely would be similar to plant conservatories in Des Moines, Iowa, and Madison, Wisconsin, organizers say.

Tom Tallman, a member of Oasis Plant, also cited Lauritzen Gardens in Omaha as a mode

8/17/15 - Lincoln Journal Star article on Parks Advisory Board decision

2011	2015	2018	2020	2021	2022
members Anne Vidaver, Tom Tallman, Bud Dasenbrock, Cecil Steward, Alice Reed and Steve Nosal.	Lincoln Journal Star. Conceptual Site Plan is developed by Erickson Sullivan Architects	Foundation to be used towards payment of a contracted Feasibility Study by Lane and Gwecke Consulting.	to LBG, July 29th 2021.	a master plan and cost estimate for the project.	interviewed, along with their proposed design teams. Website launches.
Several stories run in the Lincoln Journal Star about the development of a botanical garden at the Pershing Center site, 21st and N street, and Van Dorn Park. Group is called the Plant Oasis Group and consists of founding	August 16th, 2015 the City Parks and Recreation Advisory Board approves Van Dorn Park as a location for a botanical garden and conservatory. This action precipitates the development of a Feasibility Study. This story reported on in the	2018 marked the official beginning of the Lincoln Botanical Garden through its name change and incorporation as an official non-profit organization. Received a \$10,000 grant award from the Lincoln Cooper	Working with UNL's Bureau of Business Research - Dr. Eric Thompson and Dr. Mitchel Herian, formulate a Business Plan. This process utilizes information provided by the American Public Garden Association. Handover date back	Lincoln Parks and Recreation presents LBG with a "Critical Path" document detailing the proposed expected steps towards the development of a botanical garden at Van Dorn Park. This path includes the development of	Following the City Parks and Rec Critic Path document, LBC sends out an Reque For Proposals to various architect, landscape architect, and engineering firm in the Lincoln area for the development of a garden Master Plan. Three firms a
PLANT OASIS	PARKS ADVISORY	501(C)(3) STATUS	BUSINESS PLAN	PARKS AND REC	RFP



Master Plan and visioning and workshop sessions a Ollsson Landscape Studio with Landscape Architects Hoerr-Schaudt

Photo: Brad Kindler

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MASTER PLAN

Master Planning Process at Olsson with Hoerr-Schaudt Landscape Architects. An initial 2-day in-person visioning workshop with the LBG Board of Directors initiates concept sketches and begins to visualize what a botanical garden could look like in Van Dorn Park.

Initial discussions about locating on East Campus occur in the summer and fall of 2023

2023

PHASE ONE

Phase One includes generating Final Plans and Construction Document sets for the build out of the conservatory. Associated themed gardens and grow houses will be developed adjacent to the conservatory with more to be installed in a Phase Two some vears into the future.

2027

FUTURE

PROCESS ------ MISSION



LBG MISSION WORKSHOP

Recognizing that defining mission and vision statements are necessary preliminary steps when envisioning a botanic garden (Gratzfeld 2016), in December of 2023 an initial workshop was conducted with members of the Lincoln Botanical Garden board at Project Control's Haymarket based office. This workshop, facilitated by Brad Kindler, was also the result of the LBG having recently gained multiple partner and site options for the construction of a garden and conservatory. The goal of the workshop was to begin to brainstorm language for a formal mission and vision statement so as to better understand philosophical and programmatic alignments with future garden partners. The group proceeded with an understanding that mission and vision statements "should broadly and concisely express the reason for the garden's existence in terms that will inspire and motivate stakeholders" (Longwood 2018).

In order to achieve this board members were asked to develop their own individual statements prior to the meeting. These statements were then shared with the group while recording the essential and descriptive language on a white board. The recorded words were then individually discussed and the larger group decided if the language was conceptually appropriate and should be kept or erased. **Remaining words are language that the LBG agrees can now form the basis for a future garden mission and vision statement.**

Examples of board member draft mission and vision statements:

- Alice Mission Statement: To spark curiosity and love for our plant world, to preserve and promote our connection to nature, art, our environment, and the survival of the planet.
- **Steve Mission Statement**: To advance the understanding of the relationship between plants and all living organisms.
- Anne Vision Statement: To grow and show plants suitable for the state's changing climate, provide instruction on plants being grown both outside and in the conservatory, provide a year-round green oasis for people's health and well-being, and provide a source of knowledge and entertainment to enhance peoples' lives.



Mission and visioning and workshop session conducted December 2023

PRE WORKSHOP BOARD EXAMPLES

Alice:

Mission: To spark curiosity and love for our plant world, to preserve and promote our connection to nature, art, our environment, and the survival of the planet.

Vision: The Lincoln Conservatory & Botanical Gardens goals are to preserve, educate in an artful display of our plant world within a year-round glass oasis and outdoors through its beautiful themed gardens to be enjoyed by all.

Steve:

Mission: To advance the understanding of the relationship between plants and all living organisms. To bring an in-depth understanding of plants and their biomes to the Citizens of Nebraska.

Vision: Lincoln Conservatory and Botanical Gardens will bring an in-depth visual display of plants and their diversity in our world. The diversity will include the beauty of plants, art and sculpture, garden spaces, educational programs, engineering solutions to our changing planet

Kathy:

Mission: Indoor and outdoor green spaces to explore, educate, inspire and showcase environmental stewardship.

Vision: The Lincoln Botanical Garden and Conservatory will provide and promote horticultural excellence and diversity for all ages and seasons. The space will be used for educational and community engagement, collaborating with like-minded groups and addressing land use by creating a climate-smart environment.

Anne:

Mission: To provide people of all ages exposure to show-case gardens for enjoyment and learning and a yearround conservatory for unusual, rare and endangered plants.

Vision: To grow and show plants suitable for the state's changing climate, provide instruction on plants being grown both outside and in the conservatory, provide a year-round green oasis for people's health and well -being and provide a source of knowledge and entertainment to enhance peoples' lives.

JeNeane:

Mission: Provide all with year-round enjoyment and learning through plants Enrich the lives of all through plants Immerse all in the year-round world of plants Provide opportunity for all to enjoy and learn through plants

Brad:

Mission: Cultivating plants to conserve and educate about Earth's biodiversity and beauty.

Vision: The Lincoln Botanical Garden is an inspiring interactive 12-acre conservatory and public garden located in Lincoln, Nebraska. We encourage conservation and interpretation of plants through beautiful seasonal displays, rare permanents collections, and gardens that demonstrate a sustainable and ecologically rich landscape.

References:

Gratzfeld, J. (Ed.), 2016. From Idea to Realisation – BGCI's Manual on Planning, Developing and Managing Botanic Gardens. Botanic Gardens Conservation International, Richmond, United Kingdom.

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LBG MISSION WORKSHOP

The collated remaining words appear in the columns below. Examples of conceptual mission and vision statements appear on the next page.

MISSION

A succinct statement that defines the primary purpose of the garden and acts as a guide for decision making.

Environment
Explore
Inspire
Educate
Learn
Enrich
All People
Year-Round World
Haven
Joy
Unique
Gardens
Conservatory
Spark
Curiosity
Nature
Preserve
Survival
Advance
Relationship
Plants
Cultivating
Conserve

VISION

Outlines what an organization wants to be or how it wants the world in which it operates to be. It concentrates on the future and is inspirational.

All Ages and Seasons
Collaboration
Like Minded
Climate Smart
Future
Grow and Show
Instruction
Green Oasis
Health and Wellbeing
Preserve
Artful Displays
Glass Oasis
Educate
Plant World - Planet
All to Enjoy
Visual Display
Diversity
Beauty
Sculpture
Engineered Solutions
Changing Planet
Idea Improve Planet
Sustainable
Ecologically Rich
Landscape

MISSION STATEMENT EXAMPLE

Cultivate joy, curiosity and learning through the year-round world of plants.

VISION STATEMENT EXAMPLE

The Lincoln Botanical Garden is an ecologically rich landscape of seasonal beauty for all ages to enjoy. Our conservatory and themed gardens seek to educate and inspire through artful displays and sustainable solutions to a changing planet. We value diversity, collaboration, health and wellbeing.



LBG Board discussing Mission and Vision statement language February 2023

PROCESS CONCLUSIONS

I would like to offer up a few conclusions based upon my research and investigation into garden development, and how this may inform the path forward for the Lincoln Botanical Garden.



Denver Botanic Garden 2022

- **THE WHY** Recommit to developing a robust argument for **why Lincoln needs** a conservatory and botanical garden. Where it will be built, matters less in an early stage of garden development than generating interest, excitement, and support from the wider Lincoln community and donors.
- **MISSION** As noted in multiple publications on the development of botanical gardens, it is important to develop your Mission and Vision statements early in the process so as to be able to utilize them in driving **conceptual gardens, design**, and **public awareness**.
- **SUPPORT** Continue to court and attract **potential donors** so that when a location is finalized, there is **financing in place** for an **accelerated design and construction timeline**. It is a difficult to generate excitement about a project that will take another 20 years to see built.

At all times in financing garden development, consider a percentage of donations be set aside for future growth or a garden endowment.

Document and celebrate the process.

PROCESS SECTION REFERENCES

- UNL Bureau of Business Research Report Lincoln Botanical Garden Business Plan, July, 29th 2021. Authors E. Thompson, M. Herian, E. Anderson, Unpublished.
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DESIGN THEMED



WHAT IS A GLACIAL ERRATIC?

When I was a child growing up in the Belmont neighborhood I would often walk by a large rock that, at the time, I thought was an asteroid. The reason I thought this was because this boulder was so out of place in rock free Nebraska, it must have been from outer space. As I learned to read and could later understand the information printed on the bronze plague at its base, did I come to realize that this was a giant glacial boulder called an "erratic."

Belmont, meaning beautiful hill, was created during glacial retreat leaving a hilly moraine deposit of silty clay soils and glacial boulders. This topography, soil profile, and scattering of Sioux Quartzite boulders can be found throughout northwest Lincoln. Boulders are regularly found during new home construction and large excavating projects for shopping and neighborhood developments. On several occasions a massive rock has been unearthed, recognized as special because of its size, and subsequently displayed for the public.

A glacial erratic is a rock picked up and carried by a glacier and deposited in another location where the native rocks and stones are

characteristically different. The stone size can range from pebbles

to large boulders. However, in Nebraska the term erratic is mostly reserved for the largest rocks, as is the case with the rock displayed in

Belmont. Smaller stones mixed with other glacial sediments and soils

DEFINITION

are referred to as glacial till.

history.nebraska.gov/marker-monday-giant-glacial-boulder/

Noting the path of deposition of these rocks helps to trace the historic path of the glacier from a distant location. These ice movement boundaries are described as glacier lobes, with the James Lobe being the most recent extension from eastern South Dakota to the present position of the Missouri River. As a frame of reference, Sioux Falls, South Dakota, is roughly 230 miles from Lincoln, Nebraska, indicating the stunning lengths and movement the glacier exhibited.





c9dad0c8b392.html#tracking-source=article-related-bottom

Lincoln Journal Star news in 2018 describes two large glacial erratics that are associated with two area residents. One, Tim Schulz, whose erratic he inherited when he bought the property on West A St, and the other, Konnie Robertson who helped uncover and move the erratic found on the farm near Sprague. The Schulz erratic is estimated to weight 44 tons, while the Robertson erratic tops it at 60 tons. These impressive stones are just a few of the large glacial erratics that can be found in landscapes and as notable markers in the landscape in southeast Nebraska. It is interesting to note that these erratics have unique histories associated with the families and communities where they are found. This relationship to a human story is another enriching detail in the deep geologic narrative of how these erratics came to be present and subsequently displayed in Nebraska.

VERNACULAR ARCHITECTURE

Vernacular is a term to describe a local or regional dialect of language. The term "vernacular architecture" is used to describe a design and construction technique that is outside of an academic or professional tradition and is characteristic of a particular locality or region. Its style and form are informed by the local needs, cultural traditions, as well as the available materials. Sioux Quartzite cobbles and boulders in southeast Nebraska have been used to construct grottoes. wells, picnic shelters, mailbox stands, retaining walls, sculpture, and to keep weeds down around road culverts.









journalstar.com/news/local/an-even-bigger-boulder-emerges-southwestof-lincoln/article 3c9c2ac9-9df9-59d0-954c-75f41918c913.html



Lourdes Catholic School - Nebraska City, NE

SIOUX QUARTZITE

Sioux Quartzite is a 1.6 billion year old stone material found throughout southeastern South Dakota, southwestern Minnesota, and a small portion of northeast Nebraska. Originally a sedimentary rock made of small quartz grained sandstone, through time and pressure the sandstone was transformed into the hard pink metaphoric stone we find today. In certain areas the stone is visible as surface outcroppings, most notably in Sioux Falls, South Dakota, where the rock has been exposed by the Big Sioux River.

In Nebraska, Sioux Quartzite is primarily found as a result of glaciation, having been fractured off of northern formations and carried south in glaciers. It was subsequently exposed in waterways and as large boulders known as glacial erratics, which have been excavated from farm fields and construction sites. Large glacial erratics, as well as small boulders and stones, have been used in architecture and monument building in southeast Nebraska. It is now a common material found in area vernacular architecture.

The below timeline is a graphical representation of the geologic timeline and is not to scale.



Sioux River in Sioux Falls, SD

ROCK CREATED	DEEP GEOLOGIC TIME	QUATERNARY	LAST GLACIAL	HOLOCENE
Braided rivers deposit sand sized quartz grains. These grains are formed into quartz sandstones which through time, heat, and pressure are metamorphosed into Sioux Quartzite. The presence of hematite in the rock gives the stone the pinkish quality.	In writing about the ancient nature of geological process, 18th century geologist James Hutton ends his classic work <i>Theory of the Earth</i> with the statement, "we find no vestige of beginning no prospect of an end." This statement encapsulates one of Geology's great gifts to humanity, the understanding that Earth's origin and form is vastly old and changing and this understanding is observable in the sediments, stratigraphy, and metamorphosis of its rocks. The Sioux Quartzite is very old, while its arrival in Nebraska's landscape is relatively recent on a geologic timescale.	GLACIATIONS Glaciation shaped the landscape of North America. Several southward advances and northward retreats of the Laurentide Ice Sheet reshaped the landscape by gouging out the Great Lakes, depositing massive amounts of sediments, and shaping topography as far south as St. Louis, Missouri.	MAXIMUMWisconsian Stage glaciers occurred on the late Pleistocene Epoch. At this time glaciers covered 8% of the Earth's surface.At about 15,000 years ago glaciers retreated in eastern South Dakota, sea levels rose, and glacial boulders were again deposited.	Extensive glacial retreat is a hallmar the beginning of th Holocene epoch. corresponded with movement of Nativ Americans through North America. These first people encountered Sioux Quartzite and othe glacial exposed sto Native tribes also developed sedenta communities focus around agriculture.
6	6	6	6	6
1.6 billion years ago Eon PROTEROZOIC — —	Eon 538 million years	2.5 million years ago	21.5 thousand years ago	11.5 thousand years ago
Era MESOPROTEROZOIO	Era 66 C — — — PALEOZOIC — CENO NEOPROTEROZOIC	million years ZOIC — — — — — —		

Source: GSA - https://rock.geosociety.org/net/documents/gsa/timescale/timescl.pdf?v=2022

Epoch PLEISTOCENE

→ HOLOCENE -



Sioux Quartzite boulder in prairie, Pawnee County, NE Photos: Brad Kindler

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ary sed

FARMING

Farming and settlement by Europeans uncovered rocks. Subsequent land modification and erosion exposed more rocks and boulders for use in building and landscaping.

Humans have altered many aspects of the physical and chemical Earth. Some scientists suggest we should change geological Epochs from the Holocene to a new one called the Anthropocene, beginning circa 1960.

INTERPRET

Interpret glacial erratics in Nebraska landscape at the new Lincoln Botanical Garden.

This exhibit connects one component of the geologic landscape of Nebraska to the vernacular architecture that has utilized this stone in various structures and monuments.

1900'S 2027

ANTHROPOCENE

Present

Future

GLACIAL BOUNDARY

The below image represents the maximum extent of the Laurentide ice sheet as it moved south from northern latitudes. The blue line represents the western edge of successive glacial episodes, extending into eastern Nebraska and as far south as St. Louis. The ice masses plucked rock from exposed Sioux Quartzite outcroppings located in the pink Sioux Ridge area and carried them as they flowed southward. Upon retreat through melting, these same glaciers deposited rocks onto the landscape and also formed much of the topography that can be found in these areas including loess soil deposits and moraines.



SIOUX QUARTZITE OUTCROPPINGS

Outcroppings of Sioux Quartzite found in the Sioux Ridge area allowed for the plucking and transport of cobbles and boulders by glaciers. The below sites are publicly accessible locations where Sioux Quartzite outcroppings can be seen.

- Falls Park Sioux Falls, South Dakota
- Palisades State Park South Dakota
- Devils Gulch Park South Dakota
- Touch the Sky Prairie Minnesota
- Blue Mound State Park Minnesota
- Gitchie Manitou State Preserve Iowa



ARCHITECTURE









MONUMENT





LANDSCAPE







Descriptions from left to right, top to bottom: All photos by Brad Kindler Branched Oak Farm near Raymond. Glacial erratic incorporated into a seat wall at the Eiseley Branch Library, Lincoln. 613 mailbox stand South Bottoms, Lincoln. Sioux Quartzite stone facade, Seward. Monument for the Pawnee Treaty of 1857, Nebraska City. Veterans Memorial, Sidney Iowa. Glacial erratics in entry landscape Hwy 6 near Eagle. Glacial erratic underneath staircase, Weeping Water. Playmore Ballroom parking lot, Emerald. East Campus Student Union memorial, southwest corner. Mailbox with plow and stone, Seward. Backyard glacial erratic Bicentennial Estates, Lincoln.

VEGETATION OBSERVATIONS

Over the past year I have been observing how Sioux Quartzite boulders and cobbles are placed in the landscape. These observations have been carried out in both wild spaces, like prairies and state parks, as well as urban areas where the rocks have been displayed by business and homeowners.

In my observation, the majority of the boulders seen in wild spaces exist in association with native vegetation to the area. Boulders placed in urban spaces tend to have either no vegetation present around them or are in association with other rocks.



I feel that there is an opportunity to artfully display Sioux Quartzite in the landscape in association with native plants and other colorful species. Placed with design and intention, there is the possibility that the stone can continue to be the focal emphasis of the display, while the surrounding plant materials showcase the stone's color, texture, and ground it in the character of southeast Nebraska.



Location:

Edwin and Leona Wolters Tallgrass Prairie. Elk Creek, Nebraska. Managed by Wachiska Audubon Society

Observations:

Walking this prairie, one occasionally encounters a large Sioux Quartzite boulder nested into the tallgrass. This is especially evident along the fence line where road leads into the prairie. Wandering the interior of the prairie, there are also several more surface stones found throughout the tallgrass.

Species:

Golden Alexanders - *Zizia aurea* Compass Plant - *Silphium laciniatum* Big bluestem - *Andropogon gerardii* Timothy Grass - *Phleum pratense L.*



Location: Palisades State Park, South Dakota

Observations:

Split Rock Creek runs through the center of the park and has cut through the Sioux Quartzite outcropping leaving incredible vertical cliffs. In some areas, vegetation is present on the stone including juniper species, grasses, sunflower species, and opuntia cactus.

Additionally, lichen and mosses are present on the stone especially where moisture is retained in a depression or from repetitive wetting by the river.

Species:

Brittle Prickly Pear - *Optunia fragilis* Creeping Juniper or *- Juniperus horizontalis* or Eastern Red Cedar *- Juniperus virginiana* Lichen spp. Bryophyta spp.



Lichen and Moss species present

POST GLACIAL VEGETATION

Post glacial vegetation is a term used to describe the plant species that colonize the exposed landscape after the retreat of glaciers. The below species are believed to have been present upon retreat of North American glaciers near the end of the Pleistocene, approximately 15,000 to 11,500 years ago.



Picea mariana

Species: Picea mariana - Black Spruce

Description: Black Spruce is found growing a few northern states and widely into Canada where it is integrated in other spruce, pine, fir forest ecosystems. It prefers moist sites.

Contemporary Alternative: Black Hills Spruce - Picea glauca

Illinois State Museum https://iceage.museum.state.il.us/plant-groups/deciduous-trees Species: Artemisia frigida - Prairie Sagebrush

Description: Artemisia pollen is commonly recovered by scientists from excavated late Pleistocene locations across the Midwest, possibly representing our native Prairie sagebrush.

Contemporary Alternative: Native and still present. Artemisia *ludoviciana* another option.

Illinois State Museum https://iceage.museum.state.il.us/plant-groups/flowering-plants-and-shrubs



Ostrya virginiana

Species: Ostrya virginiana - Hop Hornbeam, Ironwood

Description: Ostrya virginiana is a native species to Nebraska's eastern woodlands. It is a mid-sized tree used as a forest edge or understory planting.

Contemporary Alternative: Native and still present.

Species: Dryas integrifolia - White Mountain Avens

Description: White Mountain Avens are pioneering species in areas recently exposed, as in the case of receding glaciers. Still present in alpine ecosystems.

Contemporary Alternative: This species is in the rose family as has fluffy, wispy seed heads. Similarly, our native Geum triflorum, Prairie smoke, is in the rose family and also has similar seed heads.



Populus tremuloides

Species: *Populus tremuloides -* Quaking Aspen

Description: Prairie Gold Quaking Aspen is native tree to Nebraska and was discovered by plantsman Allen Wilke near Columbus, Nebraska along the Platte River.

Contemporary Alternative: Native and still present. Variety - "Prarie Gold, NE Arb"

Species: Salix candida - Sage Leaf Willow

Description: Sage Leaf Willow is commercially available with an appropriately named variety called Iceberg Alley.

Contemporary Alternative: There are several species of willow native to southeastern Nebraska. The most droughtadapted to a dry site would be Prairie Willow - Salix humilis.

FORBS + SHRUBS



Artemisia frigida



Dryas integrifolia



Salix candida

HOW CAN WE USE ERRATICS IN A BOTANICAL GARDEN?

I imagine a themed garden where Sioux Quartzite cobbles and boulders, and larger glacial erratics, are placed along paths and within garden beds. Adjacent to these rocks will be interpretive materials detailing the glacial history and deposition of Sioux Quartzite in Nebraska. Additionally, plant materials can help to tell the story of the stone by featuring species that would have been present during, and shortly after, glaciation. Lastly, it would be pleasing to showcase creative examples of how Sioux Quartzite has been used in local landscapes, incorporating stylized examples of Nebraska vernacular architecture into the garden.

Examples of display elements for a Glacial Erratics Garden may include:

- Stone Seating
- Children's Boulder Play Area
- Conifer Garden
- Prairie Vegetation Garden
- Color Garden, playing off of the stones pink and red colors
- Interactive Grotto experience
- Four Season's Garden, showcasing the stone year-round
- Rock and Opuntia Garden
- Bryophyte and Lichen Garden
- Vernacular Architecture Garden, i.e. culverts, mailboxes, rock walls, home gardens, boulders
- Monument Garden
- Pleistocene or Post-Glacial vegetation



Seating Example - A large glacial erratic incorporated into a seat wall at the Loren Eiseley Branch Library in Lincoln.









Concept Sketch 4



Concept Sketch 2

Concept Sketch 3

Concept Sketch 5



THEMED GARDEN SITE CONTEXT

SITE CONTEXT

There have been several site locations explored for the placement of the Lincoln Botanical Garden. At present, discussions are underway with the City of Lincoln about locating it at Van Dorn Park near 9th and Van Dorn Streets. There is also discussion about placement on the east side of the University of Nebraska's East Campus. For the purposes of this project, I have chosen East Campus as the location for my analysis and conceptual themed garden development.

Additionally, I have selected the southeast corner of the open areas on East Campus, as it is here that mature tree canopy exists, in addition to access, full sun locations, and visibility into the site from major nearby roads.



- **1.** Several large pine trees are planted here, with additional open space for a potential Glacial Erratic Garden.
- 2. There are four rows of tree alleés in this area. Hickory, Oak, Walnut, and hazelnut shrubs are planted here.
- 3. This open area is home to a lone Scotch Pine. It is otherwise in full sun and slopes to the north.
- **4.** This large cottonwood tree is located in the northeast area of the site. It is one of several massive cottonwood trees that occur near the creek, and would make a great destination for visitors.
- 5. The existing Morton Building is surrounded by large ovaks and several piles of equipment and debris.
- 6. A vista from the highpoint on the southwest corner of the site. Currently an agricultural field.

SITE PHOTOS







SITE ANALYSIS

The adjacent Site Analysis graphic records observations made on the ground while walking the East Campus site. The graphic details the following:

Access E 0 03 \$ 67333 03

3

HiGH pt.

PINES

C PAWPAN C C C

BLDG

ALGE

1 4 3

3

5 3 6

LIDEV

- High point and low point in the landscape
- The direction of water flow
- Views into the site
- Notable trees and tree species
- Existing infrastructure
- Access in and around the site
- Areas of sun and shade



HOW TO DESIGN A GLACIAL ERRATIC GARDEN?

The first step in my design process was to identify any significant natural resource, such as trees, that will remain on the site.

Secondly, I defined circulation through the site. This delineation allows for the separation of spaces into, where people will walk and where they won't, as well as, how they will view different gardens.

PAVED WAIKING TRAIT-

Ponderosa Pine

Existing Trees

NATYPAL WALKING TRAIL

The existing site conditions contain six Ponderosa Pine (Pinus ponderosa). These trees are roughly 30 years in age and approximately 20 - 35 feet tall. They are planted in a row that cuts a diagonal running north/northwest. There are also a few small deciduous trees in the location that would most likely been removed in a final design.

The surrounding landscape slopes to the southeast and is entirely in grass. There a modest terraces both uphill and down hill from the site, most likely some kind of remnant of a previous agricultural field. This subtle topography could be used to establish pathways, direct views, or create plantings that have their own micro-climates and water requirements.





SITE PHOTOS









VEGETATION SKETCH 1

PRAIRIE Concept



Utilizing native prairie species to position the boulder as the focal point of the the composition. Tall species flank the edges, while lower growing species are placed at the base of the boulder.

Green is opposite pink on the color wheel and will provide a visual contrast and complement to the planting. Additionally, there are colorful species of native plants that will punctuate the composition so that boulder and plants blend into a memorable display of flowers and texture.



Enhanced site using Prairie Concept

Species used in this planting:

- 1 Schizachyrium scoparium Little Bluestem
- 2 Sporobolus heterolepis Prairie Dropseed
- 3 Eryngium yucaafolium Rattlesnake Master
- 4 Liatris punctata Dotted Blazing Star
- **5** *Callirhoe involucrata -* Purple Poppy Mallow
- 6 Coreopsis verticillata 'Moonbeam' Moonbeam Coreopsis
- 7 Aurinia saxatilis Basket of Gold (not native)
- 8 Carex pensylvanica Pennsylvania sedge



Existing site conditions

VEGETATION SKETCH 2

opyntia concept



It is always fascinating for me to find cactus growing in Nebraska. In certain unplowed prairie remnants there are still pockets of "Plains Prickly Pear" that persist. In north Lincoln, near Salt Creek, there is a large patch of prickly pear cactus growing. It from this patch, and the Opuntia fragilis cactus found growing in South Dakota, that I pull inspiration for the Opuntia Concept Sketch.

Integrated with horizontal juniper species and other green-gray foliage, this concept emphasizes the elements of post-glacial vegetation, color, and visual texture. Other species of conifers, and dwarf conifers would also work in a planting such as this.



Enhanced site using Opuntia Concept

Species used in this planting:

- 1 Juvniperis horizontalis Horizontal Juniper
- **2** Salix candida Sage Leaf Willow
- **3** Artemisia frigida Prairie Sage Brush
- **4** *Geum triflorum -* Prairie Smoke
- 5 Opuntia polyacantha Plains Prickly Pear
- 6 Cerastium tomentosum Snow in Summer or (not native) Antennaria plantaginifolia - Pussy Toes



Existing site conditions

INTERPRETATION

Garden elements can benefit from interpretive signs. Explaining the geologic history of how Sioux Quartzite boulders arrived in southeast Nebraska, and how the stone was used locally, is educational and enriching to visitor's garden experience.



Interpretive signs installed in the landscape

Design elements used in this planting:

- **1** Area Appropriate Vegetation
- 2 Large Sioux Quartzite glacial erratic
- **3** Interpretive signs showcasing glacial erratic history



Existing site conditions



Interpretive signs installed in the landscape

Design elements used in this planting:

- **1** Interactive Sioux Quartzite Grotto
- **2** Area Appropriate Vegetation
- **3** Interpretive signs showcasing vernacular architecture



Existing site conditions



DESIGN CONCLUSIONS

I would like to offer up a few conclusions based upon my research and investigation into a single themed garden on glacial erratics, and how this may inform the path forward for the Lincoln Botanical Garden.

THE WHY All themed gardens **require design inspiration**. Where does this inspiration come from, and when found, **why is it important** to the wider community?

I think telling a **uniquely local story** is critical to the differentiation and success of a botanical garden. Local histories and ecologies create an enriching visit, as they ground the experience in the **cultural and biophysical landscape**, and help to provide an authentic sense of place.

MISSION Mission and Vision statements can **act as a sieve** through which themed garden ideas can be passed. In this instance, a glacial erratic garden would satisfy a larger garden vision that has a mandate for educational or uniquely local landscapes.

SUPPORT People will want to know what will be seen in a future botanical garden. Developing several themed gardens into conceptual detail may help to generate interest and potential donor support. This would also be appropriate for a conceptual conservatory design. Additionally, creating interpretive materials that accompany the concept will help to explain the deeper meaning behind the idea.



Atlanta Botanical Garden Photo: Rebecca Austin



Ryoan-ji Temple Kyoto, Japan







