ARBORETUM MASTER PLAN

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

AUGUST 2021

U20028

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Introduction

The University of Illinois Arboretum, first designed in 1990, includes 160 acres of structured display gardens, cultural facilities and event spaces, pastoral open space, research plots, university and arboretum maintenance facilities, and reconstructed prairie and woodland areas. Together, they provide the university, neighboring Urbana and Champaign, IL, the region, and the state with quality educational and recreational opportunities.

This 2021 Arboretum Master Plan serves to update the vision plan and design guidelines that were last revised in 2001. Since then, the University of Illinois at Urbana-Champaign (UIUC) campus and the College of Agriculture, Consumer and Environmental Sciences (ACES) have undergone tremendous change. Most notably affecting the arboretum was the closing of the university's degree program in Ornamental Horticulture that once supplied a great deal of interest, resources, and research activity. As a result, major areas, such as the Miles C. Hartley Selections Garden and central research plots now have no or reduced dedicated programming and fewer resources needed to plan, produce, monitor and maintain the diverse horticultural display and research plantings previously provided.

Additionally, as the arboretum has grown its attractions, reputation, and attendance, it has become clear that it is woefully in need of a higher level of visitor amenities. Many of the user groups interviewed expressed the need to provide enhanced access and accessibility, connectivity within the arboretum, and hospitality – in the form of restrooms, shelters, and a full slate of site furnishings. Providing these amenities will not only provide for students and community guests, it will also help foster and increase the groups of dedicated volunteers that provide critical maintenance and docent help across the arboretum.

The 2018 University Master Plan outlines the arboretum and its location along Lincoln Avenue as part of the ACES Legacy Corridor – a way to consolidate, strengthen and celebrate the strong agricultural and land-grant history of the university. The arboretum is to host the new Community Connection Center, a shared facility for Illinois Extension and the arboretum. This facility "will serve as a central gathering point and gateway to the Legacy Corridor. People will gather at the Center to experience workshops, extension training, social events, etc. that bring the university and community together." Its planned location, midway along the Lincoln Avenue frontage, will move the center of gravity of the arboretum south, finally bringing the area between Hazelwood Drive and Windsor Road into the overall arboretum experience for visitors.

EXISTING CONDITIONS ANALYSIS

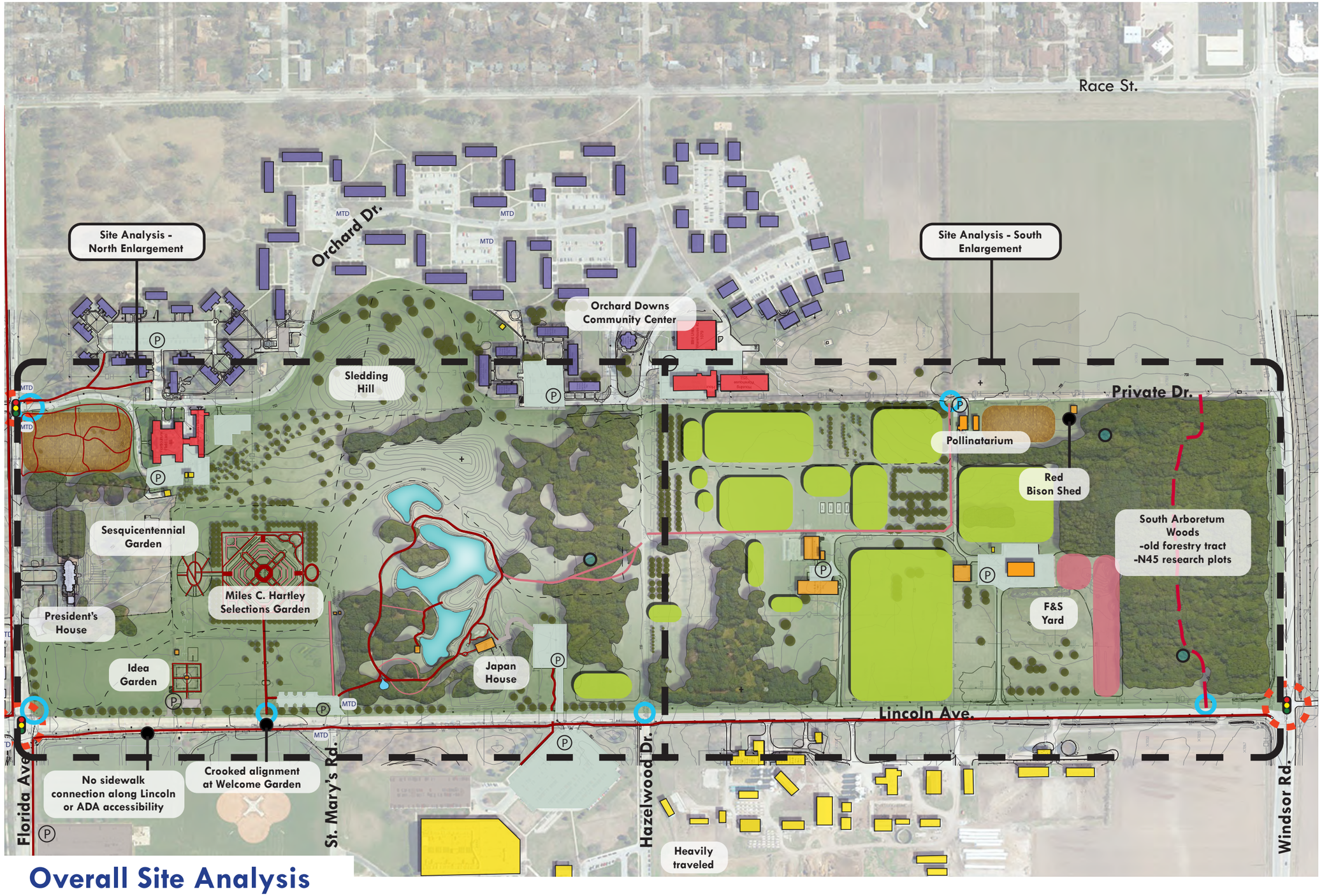
Site Analysis

The existing conditions of the arboretum have been assessed and a current basemap created through a combination of university-provided surveys, recent aerial photographs, GIS data, user group interviews and a design team/user group day-long site visit in June 2020. As with most institutions, the existing conditions at the arboretum vary from excellent to in need of major attention and resources. The recent pandemic has made garden maintenance even more difficult as the university was closed, volunteer engagement down and workdays canceled. In a typical summer, there are only 5-10 people responsible for maintenance of general areas at the arboretum, 5 full time and 4-5 summer interns. Additionally, volunteers actively maintain many specific gardens.

Major longer-term drivers of the current conditions are shifting ACES department roles and responsibilities, along with their related gardens and programs at the arboretum. For example, the elaborate annual plantings associated with the Miles C. Hartley Selections Gardens for the All-American Selections (AAS) Trials and perennial evaluation/exhibits for Flueroselect have been mostly discontinued, leaving the area with empty or unattended beds. Similar areas of legacy research plots for woody ornamental and turf grass are located south of Hazelwood Drive. These areas are easily contrasted with the Master Gardener's Idea Garden, Sesquicentennial Garden, Hosta Society Display Garden, and the Japan House, which appear to be actively maintained and often visited by arboretum guests. In general, the turf areas and official collections are well maintained. Turf in some areas is thin or weedy, or planted in areas too shady for long-term success.


INTERSTATE
74
Amtrak / CN railline
DOWNTOWN CHAMPAIGN
Neil St.
First St.
Fourth St.
UNIVERSITY OF ILLINOIS CAMPUSTOWN
Florida Ave.
St. Mary's Rd.
VETERINARY MEDICINE
Hazelwood Dr.
Goodwin Ave.
UNIVERSITY OF ILLINOIS ARBORETUM
ORCHARD DOWNS
Lincoln Ave.
URBANA
ANIMAL SCIENCES
CROP SCIENCES
Windsor Rd.
CLARK-LINDSEY VILLAGE
SUSTAINABLE STUDENT FARM
Race St.
MEADOWBROOK PARK

Context Map



LEGEND

- Off campus residential
- On campus housing
- University Academics
- Arboretum structures
- University storage
- Existing paved pedestrian/bike path
- Existing gravel paths
- Cross country course
- Primary vehicle access
- Existing secondary vehicle access
- Lawn
- Existing research plots
- Gravel yard
- Woodland
- Trees
- Water
- Entry opportunity
- Soil Pit
- Parking
- MTD Stop
- Drinking fountain
- Traffic light

North

Scale 1" = 500'

0' 250' 500' 1000'

Overall Site Analysis

PLAN NOTES

1. Existing event lawn / wedding venue
2. Previous horticulture field lab; currently storage facility
3. Poor drainage
4. Failing trellis
5. Failing path curb bands; Decomposed granite paths in poor condition
6. Idea Garden utility shed with solar panel
7. Opportunity to expand Idea Garden to Children's Garden
8. Existing parking; inadequate capacity; Idea Garden volunteers park in turf
9. Welcome Walk & Noel Welcome Garden
10. Romweber and Santogrossi Families Linden Allée
11. Council Ring; Romweber-Santagrossi Allée
12. Oak Grove
13. Erosion issues; engage Master Naturalists to maintain edges and invasive species
14. American Hosta Society National Display Garden
15. Dr. Frank Kari Walkway
16. Sen Cherry Tree Allée
17. Golden Grove Magnolia Collection
18. Non-apparent pedestrian crossing
19. Prairie restoration with turf paths; connect to proposed arboretum paths
20. Pump House
21. Proposed UIUC gateway
22. Existing service path; convert from dirt to pavement?
23. Illuminated sculptures
24. Need for drinking fountain
25. No connection between main parking lots
26. Illinois Heritage plantings
27. Sledding hill; Housing property, maintained by F&S Grounds
28. Convert to paved connection
29. Provide boardwalk to protect baldcypresses
30. New Lykin bench area installed by arboretum
31. Memorial azumaya shelter donated by Nick Offerman
32. Dave Williams Shrub Collection, overgrown, no IDs
33. Proposed strolling path on island; previously designed
34. Existing event lawn / wedding venue
35. State soil profile soil pit; currently flooded; provide pedestrian access and under drainage?
36. Compost and mulch storage; old lathe house; provide screening; F&S and Arboretum property
37. Orchard Downs student housing
38. Veterinary med. parking; overflows to Arboretum
39. Maintain vehicular access to F&S garage
40. Gravel path
41. University of Illinois way-finding sign
42. Japan House; desires screening / privacy for cultural immersion; add new origami crane sculpture in Phase 2 construction
43. President's House overflow parking
44. Nut Grove, no formal program, harvested by community
45. Magnolia Hill

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- Gravel yard
- Woodland
- Trees
- Stormwater ponds
- Entry opportunity
- Soil pit
- Parking
- MTD stop
- Traffic light
- Drinking fountain

North

Scale 1" = 500'

0' 75' 150' 300'

North Enlargement

South Enlargement

PLAN NOTES

1. White pine hedge
2. Open areas for turf outreach and research
3. Pollinator prairie and research
4. Specimen tree research
5. Perennial and bioenergy grass research plots
6. Nut grove: no formal program and harvested by community
7. Lathhouse and greenhouses; storm damaged and in poor condition
8. Current turf disease research plots; propose to change to Arboretum zone 7 garden
9. Dave Williams Nursery Plot, baldcypress
10. Bee hives located in tree rows
11. Needs benches and signage / overall clean up; ADA access
12. USDA plant selection plots; Gary Kling; opportunity for shade garden understory
13. Utility drive
14. Red Bison shed
15. Heavily traveled bicycle connection
16. Opportunity for woodland trail
17. Fuel location
18. Difficult to turn compost; need to provide paved surfaces
19. Provide new gate for security
20. Regrade drainage and pave the gravel road
21. Mulch piles
22. Previous ash plot; great soil; opportunity to re-purpose as a university nursery
23. Greenhouse; used for storage
24. Building used to capacity; provide expansion with restrooms
25. Topsoil piles
26. Compost pile
27. Extend pavement to access material piles
28. Opportunity for bus pull off and 8-10 parking spaces
29. UIUC surplus warehouse
30. Low Point; opportunity for additional permeable parking
31. Gravel and mud yard areas to be improved
32. State soil profile, soil pit; currently flooded; provide pedestrian access and under drainage?
33. Dr. Gary Kling Tree Cultivar Evaluation Plot
34. Horticulture Field Research Lab
35. University of Illinois way-finding sign
36. Tree grove buffer; old nursery stock, oak, beech, black gum

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0' 75' 150' 300'

Idea Garden

The garden is in many respects the gateway garden to the arboretum due to its presence closest to the university campus and Lincoln Avenue and its proximity to the north parking lot. It is well visited and overall, the garden is in good condition. There are areas where the mulch is eroding from paths and beds due to surface stormwater and high traffic. The mulch paths and compost bin area could benefit from more resilient paving. Since the garden's inception, it has expanded outside of its original fenced in area, adding vegetable and fruit gardens, a storage shed and mulch and soil storage areas. It is currently maintained by 20-30 volunteers.

Sesquicentennial Garden

This garden was completed in fall of 2017, and in some respects is still growing in. There are areas of poor drainage, leading to plant loss. Other specific plant species are consistently failing, and substitutions should be evaluated. The gravel secondary pathways and bench pads are not edged, causing gravel to be scattered, detracting from the overall crisp design geometry of the space and increasing maintenance.

Hartley Selections Garden

The garden - built in 1994, needs additional work to continue to restore the limestone walls, solve drainage, aesthetic, and accessibility issues with decomposed granite walkways, replace failed concrete edging throughout the garden, and remove / replace failing shade structures. As the oldest garden in the arboretum, much of this maintenance is expected. The southeast corner is well on its transition to an accessibility garden, hosting plants with a decidedly Illini / Illinois history, and a dwarf conifer collection. Some walkways are in need of more gradual radii to better accommodate maintenance and visitor vehicles.

The garden greatly decreased its evaluation role, currently focusing on perennial trials. It continues to serve an important role as a display garden for the best varieties of annuals produced by the industry, providing these displays seasonal color for the many weddings held in the garden. Moving forward, there is interest in the evaluation and display of perennials, shrubs, native plants and “nativars” – cultivated varieties of Illinois native species.

Council Ring

The newest garden to the arboretum, serves as the south terminus to the Harley Selections Garden, and transition to the event lawn to the south. The main plant materials have been installed along with the bluestone seatwalls and step stone paths. Mulched areas around the enclosing evergreens and some of the larger gaps between the entry walks, walls and accent stone seating might benefit from some low shrub and perennial accent plantings. The same applies to the allées to the east and west.

Hosta Garden

The area is in good shape, with some portions in need of a topdressing of mulch. It is one of the few gardens that is not ADA accessible. The garden could use some boundary and backdrop plantings in areas to the south to separate it from and protect the Bald Cypress grove.

Japan House

Japan House, a cultural house under Fine and Applied Arts, and its adjacent dry and tea gardens are in good condition, with minor plant replacements and maintenance required. The tea garden, by its close adherence to traditional design, is not ADA accessible. Although the gardens are open to the general public, the interior is not, much to the chagrin of arboretum visitors looking for guidance, shelter or restrooms. At present, Japan House's gardens are well-screened from the road and other areas of the arboretum, providing a context of total immersion in Japanese culture. The cultural experience begins at the existing north parking lot and continues along a meandering walk lined with groves of cherry trees. In the near future, the Japan House will double its building size, expand the tea gardens, an incorporate a new origami crane sculpture as part of Phase 2 construction.

Frank W. Kari Walkway and Ponds

The ponds need substantial work to both remove invasive tree and herbaceous species and replant with appropriate slope and shoreline plantings. It is hard to recognize that you are on a dedicated garden walkway as you approach from the south and Japan House. The walkway at 7' is too narrow for maintenance and other vehicles. There are several different types of concrete paving styles along the path. The uniquely crafted wood shelter, an azumaya, is a notable landmark along the path, other seating areas are being added. Plant signage is inconsistent.

Pollinatarium

The site surrounding the building needs general maintenance of the landscape and upgrades in accessibility from the parking lot for users. The facility could use additional parking, especially when buses are on site. The site furnishings are not resilient enough to endure the heavy use by groups and recent vandalism. The large shade structure was once part of a research project but has no current use. Outdoor display areas of pollinator-friendly plants are overrun with weeds. The prairie area south of the building is in good condition. Ironically, the overgrown landscape in this area, and the lack of visitors and maintenance crews in recent months have likely combined to further enhance this already very healthy pollinator habitat.

Facilities & Services (F&S) Grounds Maintenance Yard

The university's main maintenance facility needs improvements and resources to maximize productivity. The building is at capacity as far as its ability to store equipment and supplies. It lacks restrooms for the employees and security monitoring for areas both inside and outside the building. Most of the yard is gravel and dirt (mud), riddled with potholes, making the storage, movement and processing of mulch, stone, and compost difficult. The staging / lathe house area needs maintenance. A small greenhouse houses random storage items instead of plants. A vast array of site furnishings, pavers, jersey barriers and other stockpiles are scattered throughout the site. The screening of this area, both from Lincoln Avenue and the rest of the arboretum should be more formally defined and constructed. There have been thefts and the public dumping debris on site that need to be addressed. Overall, there appears to be plenty of space, but the space is not designed to maximize productivity, safety and security to the level one would expect at a flagship state university.

ACES Research / Arboretum Maintenance Area

Beginning with the Nut Grove and Illinois State Soil Pit and moving south, it is clear this portion of the arboretum is the north end of the "behind the scenes" portions of the site. With its emphases on research, plant production and staging, and as the home of the ACES research and arboretum maintenance staff, this shared facility is in need of major upgrades. There are legacy areas of research plantings that may have some value as future gardens, while there is current research going on in other plots. Still others are good candidates for redevelopment. The greenhouses and shade lathe areas have sustained a good deal of storm damage, with one greenhouse slated for removal/replacement. The maintenance building is in fair shape but appears to be too small to be shared productively by ACES Research and Arboretum staff during the busy growing season.

Southern Arboretum Woodlands

The south arboretum woods are in a state of transformation. The previous tree forestry tract, planted with many exotic species, by default, is transitioning to natural woodland in a natural succession process. There is clearing of undesirable / unsafe trees, and undesirable understory. There is planning in place to produce a palette of native species to be used to further restore the area to a high-quality woodland. A storage shed was recently built at the northeast corner of the site for use by the Arboretum and UIUC Red Bison Restoration Group.

Cross-country Course

The arboretum is home to the Illinois cross-country course. Actually, four courses – 5, 6, 8 and 10K routes have been established throughout the northern two-thirds of the site. Illinois hosted the Big10 championships in 2011. Local high schools, and running clubs also frequent the arboretum. Races bring a large number of community members to the arboretum, and the location is equally convenient for the university. Currently, rest room facilities are brought in for major events, parking utilizes the lots at the College of Veterinary Medicine, and the courses are mown into the existing turf. The arboretum's relatively undeveloped grounds, and isolated gardens make traversing the site via mostly unbroken turf-grass circuits an easy feat currently. Moving forward, there is high demand to keep – and expand the courses at the arboretum.

MASTER PLAN DESIGN PROGRAM

Overview

While the need to re-imagine the Hartley Selections Garden and refine the site concept for the new Illinois Extension Community Connection Center will account for the major design revisions to the master plan, there are other categories of improvements that will drive the development of the arboretum. User group interviews were all in agreement that the following were vital improvements to include in the master plan update. Overarching principals of wellness, connectivity to nature, life-long learning, fitness, inclusivity, and Universal Design are to be incorporated wherever possible. Gardens and exhibits should be multi-sensory to appeal to the broadest audience possible.

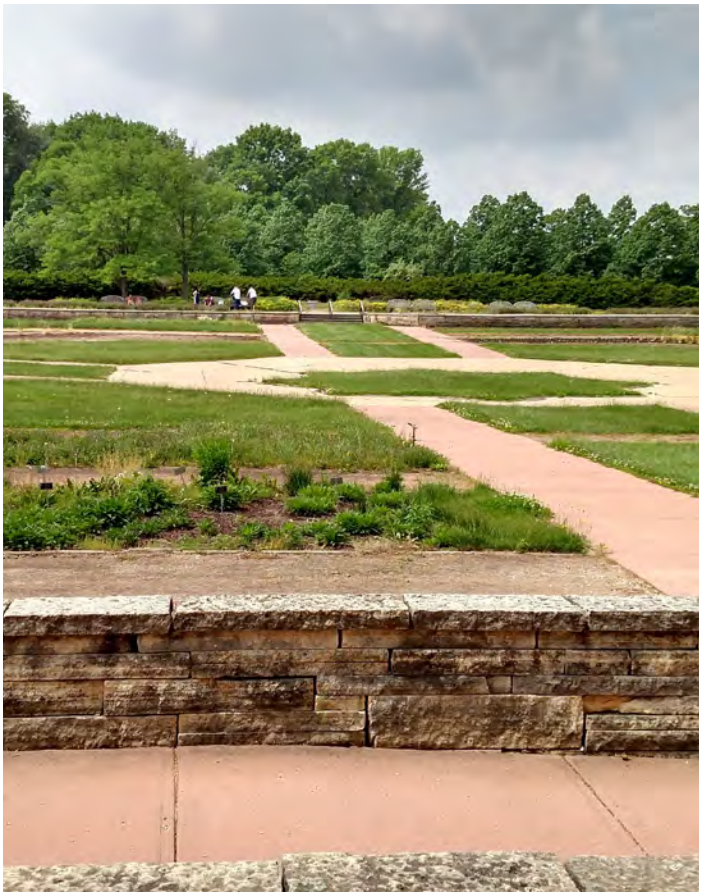
- Make the arboretum more of a resource and showcase for research and learning for UIUC, 4H, Master Gardeners and Naturalists, Illinois Extension, local preK-12 schools, and the general public. It should be an integrated part of the university and a recruitment asset for students and staff
- Create a system of accessible pathways linking existing and proposed gardens, and link to the surrounding university and community
- Consolidate and expand parking lots to allow for easier access and more parking in multiple locations. Provide bike parking
- Provide restrooms and areas for shelter in the event of inclement weather
- Provide shaded areas that can host volunteer groups, arboretum- and university-sponsored and private events, and for quiet study and recreation / relaxation
- Develop a family of site furnishings that foster hospitality and strengthen the arboretum brand. These furnishings to include benches, tables, bike racks, drinking fountains, wayfinding and educational signage, trash / recycling receptacles, wi-fi and power (charging stations)
- Define the perimeter and important corners and gateways of the arboretum with architectural markers, fencing and signage

Specifically, there are programs for various subareas and components of the arboretum.

Hartley Selections Garden

The beds in the geometric garden lend themselves to house a variety of sustainable, perennial themed gardens, each with its own theme or lessons / examples to teach.

- Continue to rebuild the existing dry-laid stone walls
- Replace the decomposed granite and concrete curbed pathways with a system that is more accessible and resilliant, such as exposed aggregate concrete
- Maintain the outer evergreen screening and tree allées which help enclose / define the garden
- Redesign the NE, NW and SW corner gardens, removing/replacing their shade structures and potentially their shade tree groves
- Explore adding vertical structure to the large, mostly open space to provide interest, destinations, shade, and shelter, and venues for hosting events
- Evaluate the utility needs in the garden relating to maintenance and event hosting
- Look for opportunities for the Master Gardeners and Master Naturalists to have gardens here, in addition to the Idea Garden offerings
- Continue to expand the Illini Heritage Plantings in the space and adjacent open areas



Council Ring

- Consider adding plantings between the turf and evergreen trees to further define / enclose the garden and create detailed planting interest
- Extend this new layer of plantings to the east and west tree allées
- Link the garden to a new pathway system to the south, allowing for event seating to the south of the ring

Master Gardener Idea Garden

The garden has expanded outside its original fencing, and the fencing should be expanded as well to capture the various outlots. There are various upgrades in garden power and rain barrels that should continue.

- Replace the secondary mulch paths with more resilient, accessible paving, such as brick pavers
- Relocate the fencing / add an outer fence to capture the vegetable gardens and maintenance shed / mulch bins
- Connect the garden to the rest of the arboretum and to the university, via a public sidewalk along Lincoln Avenue
- Provide more areas dedicated to teaching and volunteer coordination / hospitality
- Look to link current plantings to larger offerings to be in the redesigned Hartley Garden beds

Noel Welcome Garden

Relocate the purpose and recognize the donation in a redesigned space to be developed in conjunction with a new, larger north parking lot and arboretum entry experience.

Sesquicentennial Garden

The garden needs a few adjustments to realize the intent of the original design.

- Provide underdrains to capture and redirect stormwater in low-lying areas
- Research plant substitutions for the handful of species that are not performing for reasons other than poor drainage
- Place rigid edging along secondary mulch paths and at bench areas to keep the overall garden geometry crisp
- Link the garden to a walk that traverses the north end of the arboretum

Hosta Garden

The garden should contain a route through it that is ADA accessible.

- Develop at least one route through the garden that is resilient, ADA accessible
- Consider a secondary access route through the Baldcypress to the Sen Cherry Tree Allée that uses a boardwalk to reduce mulch washout in the area, but not disturb the tree roots
- Provide areas that test / exhibit sun-tolerant cultivars
- Continue to develop the companion shrub and perennial plantings
- Provide separation between the Garden and the adjacent Baldcypress grove

Sen Cherry Tree Allée

The official ceremonial route to Japan House, the walkway becomes a background exhibit when the trees are not in bloom, explore ways to create interest in other seasons.

- Widen the walk to accommodate maintenance vehicles
- Consider walk edging to keep mulch from spilling onto the concrete walks after storms
- Develop an understory plan to create interest in other seasons and reduce large mulch beds
- Prunus, in general, are short-lived and disease prone in our area. Informalize groves to allow for multi-age plantings that anticipate losses

Japan House

This revered facility is currently the south anchor of the arboretum. Implement the recently completed master plan for a building addition with public tearoom.

- In addition to the master plan, construct nearby shared improvements that help the facility host their annual festivals
- Respect and continue the total immersion screening enjoyed by the facility in the design of new and adjacent improvements
- Explore alternate solutions for the current maintenance / garbage pickup route
- Create an accessible route experience through the tea garden area

Frank W. Kari Walkway and Ponds

Complete the walkway system across the bridge and replant the ponds to be a showcase of urban stormwater basin design and management.

- Engage the Master Naturalists and NRES department in the rework and maintenance of the area
- In conjunction with Japan House, install the balance of the pond circumnavigational accessible pathways across the bridge and landscape with an Asian-influenced plantings scheme on the south and west portion of the pond
- As the amount of stormwater from the north increased with arboretum development, provide water quality measures to pretreat water entering the ponds, and reduce shoreline erosion
- Consider strategies - weirs, standpipes, etc., to allow for the water levels to be manipulated for pond and pond edge maintenance and water level stability and control
- Consider unifying the walkway with a consistent or repeating style of concrete finishing
- Provide utilities / amenities to more easily provide for special events on the Sycamore Peninsula
- Widen walkways to 9' minimum for maintenance vehicles

Pollinatarium

Upgrade the site access and outdoor spaces and strengthen the connections between the facility and arboretum.

- Provide a larger parking lot and drop off to accommodate both school groups and the public
- Provide additional restrooms for the facility or shared by adjacent uses
- Strongly connect the facility to the rest of the arboretum and south woods via accessible pathways
- Enhance the accessibility of the outdoor spaces for all users
- Provide more outdoor education spaces (in conjunction with Illinois Extension, 4H, and the South Woods) and an outdoor classroom shelter
- Provide additional interpretive signage so the facility can function more efficiently during peak-use periods and when instructors / docents are not on site
- Provide resilient site furnishings (benches, tables, bike racks, planters etc.) throughout the site
- Continue to upgrade honeybee habitat in the tree rows and their understory along the west side of the site
- Evaluate the long-term need for the screen hoop house on site. Convert area to an outdoor classroom is the hoop house is no longer needed

Conservatory / Greenhouses

Several groups would benefit from a conservatory for year-long programming and "access to green," overwintering of non-hardy plant material, hosting education, social and plant society events and meetings. They would also benefit from on-site production greenhouses

- Build a conservatory in conjunction with production greenhouses for shared infrastructure, maintenance, and education opportunities
- Provide conservatory with multiple areas for separate permanent collections, seasonal storage, and temporary shows / events
- Provide adjacent meeting / educational rooms

Nursery

A plant nursery was requested by both arboretum and UIUC F&S Grounds staff. The area located just east of F&S Maintenance Yard that has deep, quality soil is a good candidate.

- Provide areas for propagation and growing on of tree and shrub nursery stock
- Provide areas for stock beds, propagation and growing on of perennials

ACES Research

ACES research would strongly benefit from a modernized research and community / professional outreach area. While some of the research plots are no longer active or winding down, there is still high demand for space in this area due to its large size and relative isolation on campus. The adjacency to the new Illinois Extension building is a plus for combined uses and access to research and other educational plots.

- Find ways to tell the ACES story in this part of the ACES Legacy Corridor
- Re-purpose / reinvigorate old research areas that contain valuable plant communities (Nut Grove and other shade tree evaluation areas)
- Design a main east-west bike route connecting Orchard Downs with the Lincoln Avenue / Hazelwood intersection
- Provide utilities / amenities to more easily provide for special events in the Nut Grove
- Interpret current research and new technologies being developed on campus to a larger audience
- Take advantage of the vegetated hill on the west side of the site to create an accessible, sloped path, gardens and other amenities
- Enhance the State Soil pit for improved educational opportunities and access
- Create indoor / outdoor areas for teaching and demonstration
- Involve more students in field work, data collection
- Showcase food production / washing / packing, and other sustainability initiatives
- Provide a large, contiguous area to expand the research conducted on the Morrow Plots
- Provide exhibit gardens for weed, insect and disease identification, and germplasm and breeding programs
- Officially transfer portions of the area no longer slated for research to the arboretum

Arboretum Maintenance

The arboretum would strongly benefit from having a maintenance facility / yard space of its own, developed in conjunction with F&S Grounds providing:

- Vehicle (personal and arboretum), tool, and dry good / chemical storage areas
- Training, break and restrooms for staff and volunteers
- Production and winter conservancy greenhouses
- Provide evaluation areas for new acquisitions and multi-year hardiness testing
- Staging, loading dock and lathhouse areas that can support semi truck deliveries
- Soil, mulch, compost, and hardscape materials storage areas
- Provide smaller satellite maintenance areas elsewhere on the grounds

F&S Maintenance Yard

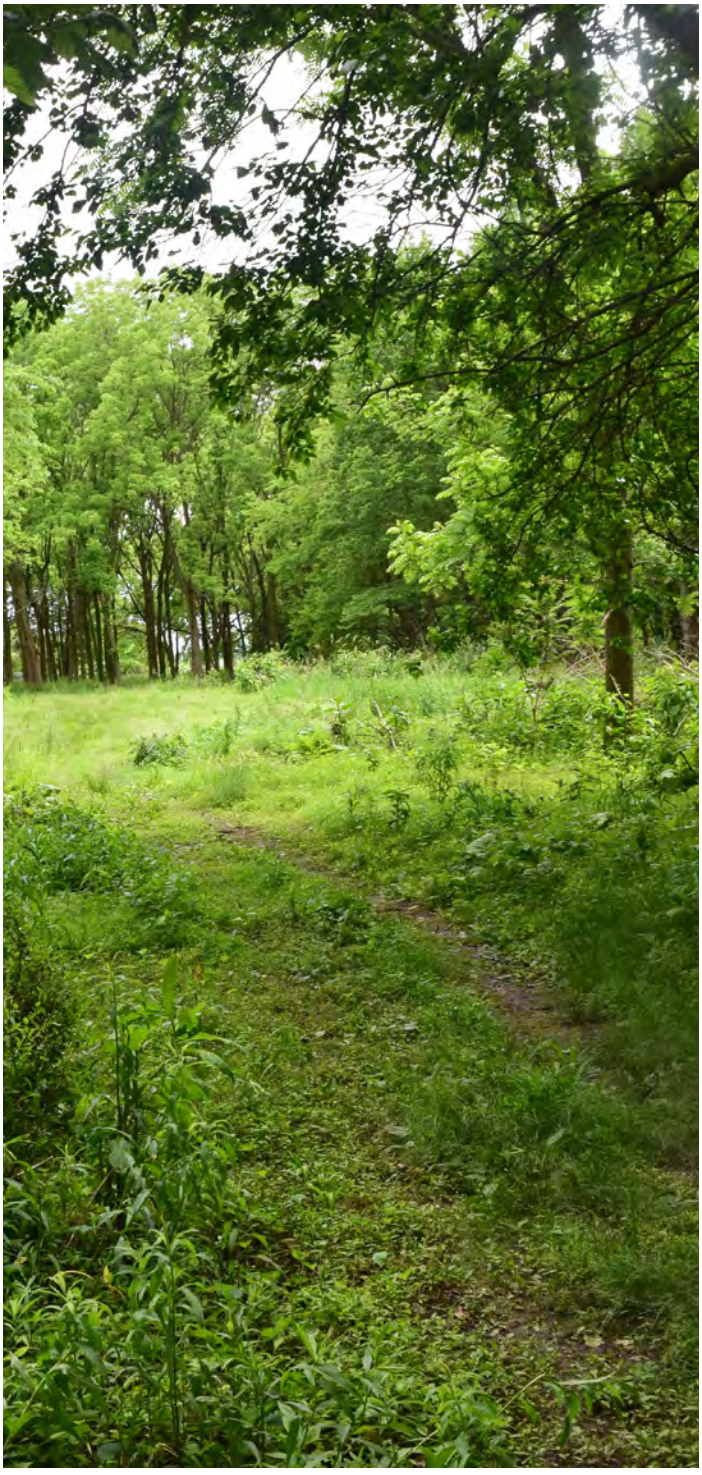
Keep UIUC F&S Grounds Maintenance Yard at the arboretum and upgrade the facility – both buildings and site, to improve resources, productivity, safety, aesthetics, and security. Create a shared facility and share resources with arboretum maintenance by moving arboretum maintenance to a new facility on the north of the site.

- Bring required utilities to the site to construct a breakroom and restrooms
- Upgrade / expand the building to improve the storage and maintenance of vehicles, tools, and dry good materials / chemicals
- Provide distinct outdoor areas for stockpiling / storing materials
- Install concrete paving in areas to facilitate the proper processing of compost and other materials, improve safety and reduce dust, and improve stormwater quality leaving this portion of the site
- Improve the security of the site with access controls, enhanced lighting, and security cameras
- Create landscape buffers to screen maintenance facilities and activities from both outside and within the rest of the arboretum
- Address stormwater requirements with a new basin to the west of the site

Southern Arboretum Woodlands

The area provides a unique ecosystem at the university for research, education, and recreation. Continue the plans to improve the natural woodland and savanna ecosystems. Strengthen the partnerships and cross-access with the Pollinatarium.

- Install native shade and understory trees, shrubs and herbaceous plantings to enhance the habitat and natural layering of the space
- Install a facility in the area to provide a base for research, education, and events, as well as to provide shelter and restrooms for small- to mid-sized groups
- Create a series of pathways through the space at different scales
- Upgrade the two soil pit areas for enhanced education opportunities
- Strengthen the perimeter plantings to screen the outside world, and define the southern edges of the arboretum
- Provide a parking lot and drop off area to safely invite individuals, families, and groups to enjoy the southern areas of the arboretum



Illinois Extension Community Connection Center Site

The site design will be the outdoor embodiment of the building and end-user missions and programming, beginning the community connection, engagement, outreach and education the moment a visitor arrives. Outdoor exhibit, classroom and demonstration spaces and gardens will expand the facility's programmable space and extend learning, social and well-being opportunities into the building's landscape and site, and beyond into the arboretum. Master Plan design partner, Moody Nolan, Inc. (MNI) has confirmed the building program and developed conceptual floor plans and 3D modeling of the building.

- Develop entry, drop-off, parking and pedestrian pathways into the building that are direct, safe, attractive, educational and inspirational
- Adjacent to each building user, create outdoor spaces that reinforce their mission and programming, foster easy indoor-outdoor transitions and views to nature, and provide opportunities for outdoor learning, respite, and socialization
- Provide landscape areas that showcase environmentally sustainable practices (water harvesting, permeable paving, green roofs, energy efficient and dark-sky compliant lighting, and other BMPs), food security and nimbleness (food-scaping, urban gardening, and permaculture)
- Provide garden exhibits that showcase ACES research, university cultures and educational resources at the university, i.e. the Sustainable Student Farm
- Link the building, via site and landscape amenities, to adjacent facilities / gardens (Horticulture Research Field Lab, and others) so all can benefit from sharing resources for special events, classes, and everyday uses
- Build resources that help nurture and grow the various volunteer programs associated with the arboretum and ACES

Cross-Country Pathway System

Since 2003, Illinois cross-country teams have utilized four courses (4, 5, 6 and 8km) delineated within the arboretum. The courses are also used by other local cross-country teams and clubs, and host regional cross-country events and 5 and 10K races. The master plan intent is to upgrade overall quality and provide revised courses within the arboretum.

- Provide track surface crossings of paved walks as a way to establish the new ADA-accessible walkway system throughout the arboretum, while maintaining / expanding the cross-country courses provided
- Expand the courses into the Southern Arboretum Woodlands (SAW) to allow for revisions elsewhere and offer new, challenging course route environs

General Pathway Systems

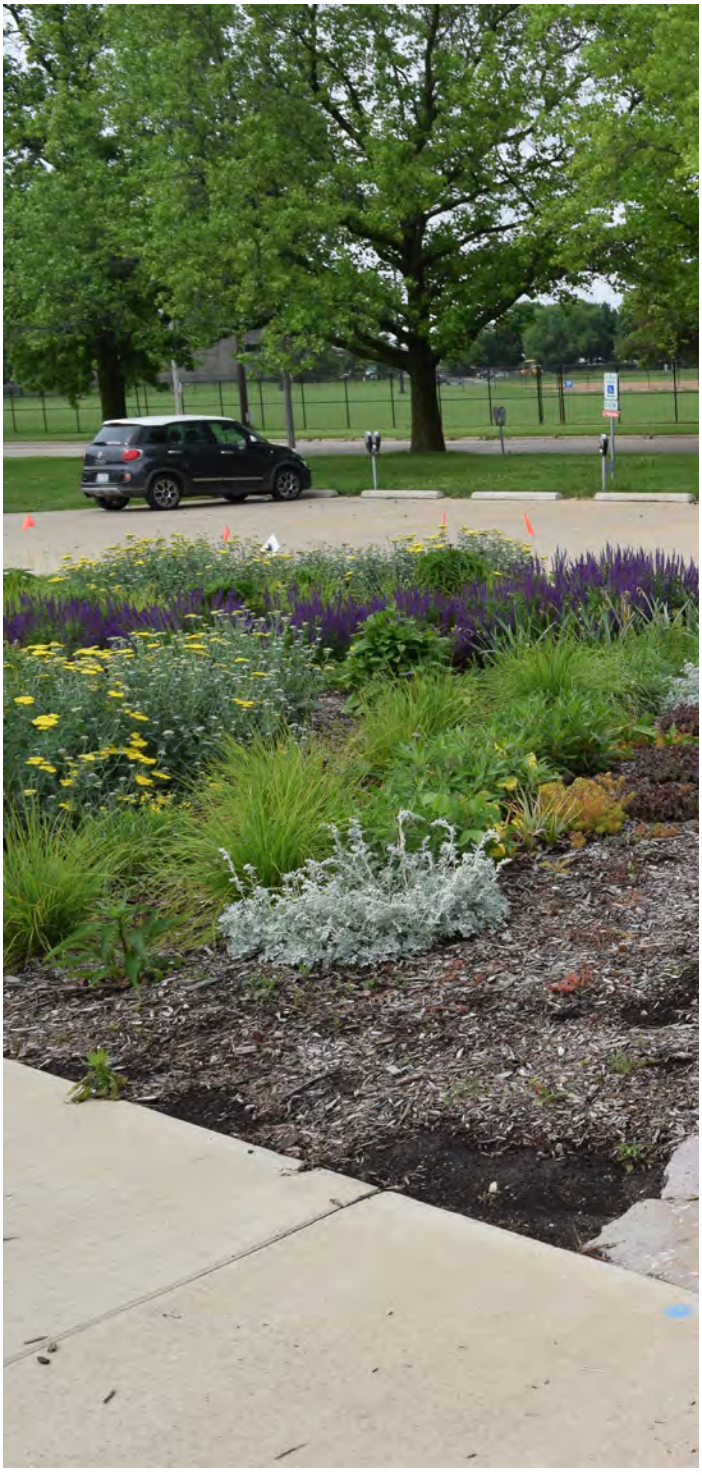
Create a system of walkways that promotes year-round exploration, fitness and wellness and engages the public. The plan will create a hierarchy of access walks linking and providing transitions / gateways to the gardens of the arboretum and from the arboretum to the university and community.

- Create a family of pathway materials and cross-sections that are coordinated, durable, accessible, environmentally friendly, and wide enough for the amount and types of pedestrian, bike and vehicular traffic anticipated
- Provide a pathway system that functions for users of all mobility levels
- Provide destinations and resting points consistently along the pathway system
- Provide clear, safe and strong connections of walkways to parking lots, regional bike paths and other points of entry into the arboretum. Provide safe pedestrian street crossings from the arboretum to neighboring communities and to campus
- Along with basic walking and in conjunction with other UIUC departments, provide other types of exercise / training opportunities
- Incorporate the pathway system into the overall stormwater plan for the arboretum
- Provide pathway lighting, but only in arboretum areas to be open after dusk
- Provide hospitality and site furnishings throughout the pathway systems

Parking Lots

Provide appropriately sized, safe, efficient lots that are well-landscaped, serving as the best examples of what parking lot standards on campus should be.

- Align entries along Lincoln Avenue where possible
- Provide turn lanes and stop signs / lights where stacking and sight lines dictate
- Consolidate smaller lots into larger, more efficient, and navigable lots
- Provide strong, safe pedestrian connection through and from the lots to the arboretum and neighborhood walkway systems
- Utilize and showcase stormwater BMPs to capture, clean and infiltrate stormwater
- Incorporate energy-efficient, dark sky-compliant lighting to lots expecting nighttime use
- Develop dedicated parking areas within lots for specific arboretum guests and facility users, wherever deemed important and feasible, i.e. Japan House and the Extension Community Connection Center
- Plan lots in conjunction with adjacent bike parking areas and public transportation routes / stops



Site Furnishings

Create and deploy a coordinated, durable, and attractive family of site furnishings throughout the arboretum.

- Select a family of furnishings that complements the existing university standards, but may be different to respect the arboretum's unique brand and setting
- Select benches, tables, umbrellas, bike racks, trash and recycling receptacles, bollards, and drinking fountains that are easily maintained / repaired
- Provide furnishings that are designed for comfort for a wide range of age and mobility groups
- Individual gardens may have unique furnishings that reinforce a specific theme

Lighting

Create and deploy a coordinated, durable, attractive, and energy-saving family of lighting and power / charging fixtures that complement other site furnishings.

- Utilize fixtures and lighting design that are dark-sky friendly
- Select parking, pedestrian and accent light fixtures that are durable and easily maintained / repaired
- Select power cabinets, power bollard and charging stations that are durable, secure, and easily maintained / repaired

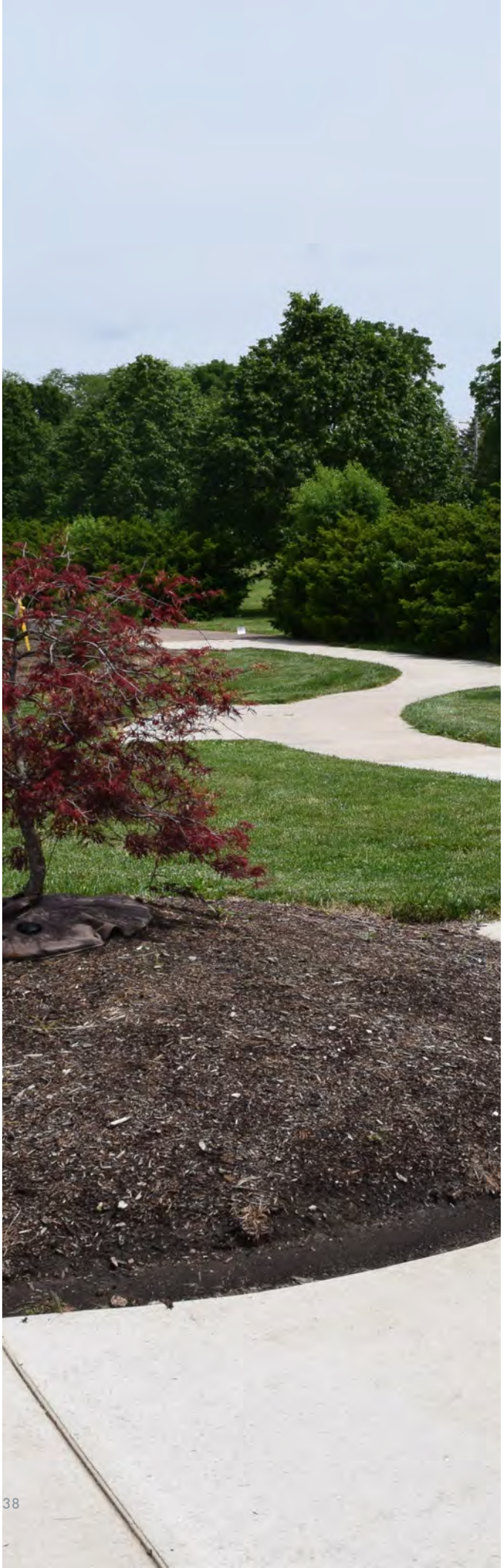
Stormwater Management

The design for an overall stormwater plan for the arboretum utilizes a series of solutions that form the basis of a 'tool kit' to address the various stormwater needs of the arboretum. Additional development within the arboretum requires that additional stormwater facilities also be developed. This has been addressed in four major areas - the two large parking lot areas along Lincoln Avenue, increased capacity and control of the existing ponds, and new stormwater facility at the west side of the F&S Grounds Yard. A comprehensive stormwater study, not part of this master plan, needs to be undertaken on a more regional level, to better understand the watersheds both upstream and downstream of the arboretum.

Individual projects from this master plan will evaluate the existing site stormwater issues and formulate and evaluate solutions moving forward that utilize the following principles:

- Design stormwater solutions utilizing green infrastructure wherever possible and fiscally practical
- Develop solutions that are not hidden, but rather serve as education and research exhibits, and if successful, become university standards
- Showcase, harvest, improve, and reuse stormwater as a valued resource and not a waste product
- Revise maintenance practices to improve stormwater quality through the sustainable selection and use of pesticides, fertilizers, and deicing materials
- Provide interpretive signage for prime examples of green infrastructure in high-traffic areas

MASTER PLAN CONCEPT



Overview

And a new day is on the horizon! There is a great deal of energy and promised resources that are looking to the future. They envision a transformed arboretum as a leading component of the University and College of ACES's abilities to increase statewide, campus and community outreach and research, education, recreation, and well-being.

Large portions of the arboretum master plan are already set. The major gardens (Hartley, Idea, and Sesquicentennial) anchor the northern third, major facilities (Japan House and ACES Field Research) and stormwater ponds reside in the central third, and the Pollinatarium, F&S Yard and the southern arboretum woodlands (SAW) populate the southern third.

This master plan update was developed synthesizing information from current survey information, user group and other stakeholder preferences (program), and design team collaboration. Two site master plan schemes and three Illinois Extension schemes were developed and evaluated by UIUC. The consensus plan shown is the result of a 13-month process, with program and review input from 11 campus and community user-groups.

Master Plan Concept

In contrast to surrounding formality of the University and the Jeffersonian Grid of the neighboring streets and outlying agrarian landscape, curvilinear, contour-following forms are the basis for the design organization of the Master Plan. The result will be a more traditional, gardenesque and parklike feeling to the arboretum – especially the southern two-thirds of the site.

The benefits to this scheme are more flexibility in overall layout over time and more variety of building and garden design without the need to conform to confined geometry or a specific palette of site features, architecture forms or building materials. There are also opportunities to bring aspects of the adjacent and regional agrarian palette to the design to strengthen the brand of the ACES Legacy Corridor, especially in the arboretum's delineation and screening along Lincoln Avenue and Windsor Road.

Beginning at the north of the arboretum, the plan enhances connectivity to campus and adjacent neighborhoods with public sidewalks along the entire Florida and Lincoln Avenue ROWs and a direct walk connection to Orchard Downs. A pair of north-south walkways flank the lawn area west of the President's House, the westernmost providing pedestrian access to the President's House and arboretum when the northwest corner of the arboretum serves as event parking. The series of formal walks will connect the Hartley Selections, Sesquicentennial, and Idea Gardens together and to a larger, consolidated parking lot and drop off. The parking lot, with its main entry aligning with St. Mary's Road, will serve as the major point of arrival for the north portion of the site and will also have bike and motorcycle parking. Between the expanded parking lots and the Hartley there will be a large event lawn anchored by a Welcome Plaza and two pavilions containing restrooms, storm shelter, storage, a small service kitchen for volunteers and events, and covered open air areas with a variety of seating options for hosting small gatherings and events. This is one of three somewhat identical pavilions areas to be located throughout the arboretum to bring much-needed basic hospitality, shelter and gathering spaces to the site.

The existing Horticulture Field Laboratory, currently utilized for storage, is envisioned to be renovated as a University Community Center. This center will provide facilities for every college and department on campus to utilize the arboretum, providing spaces for programming, socialization, and collaboration, and an expansion of outreach to the community.

Directly south of the President's House, a new main east-west walkway will be developed and arc southeast then south along the east side of the ponds, joining up with new paths extending from Japan House and the Kari Walkway. At this junction, a second pavilion will be placed to serve the middle third of the arboretum. It will also serve as a support building for events hosted by Japan House and the new Illinois Extension Community Connection Center. A 400+ capacity amphitheater with modest back-of-house facilities including rest rooms, a greenroom and storage will be built into a southern extension of the east side berms for use in performances, lectures, and other events. Located due east of the Japan House, it may be used in conjunction with their facilities to host festivals or for events based out of the Illinois Extension facility.

The new Illinois Extension facility, The Doris Kelley Christopher Illinois Extension Center, will be located at the corner of Lincoln Avenue and Hazelwood Drive and is anticipated to accomplish two important tasks for the arboretum – one, bring the center of gravity of the entire arboretum farther south from the Hartley Selections Garden, and secondly, bridge the two halves of the site so there is no longer the notion that there are only formal gardens and facilities to the north and only research and maintenance facilities to the south. The new facility will bring together four ACES programs (and administration and IT staffs) and arboretum administration, in one collaborative space, with additional facilities to host classes and events. It will also take advantage of its location to pull and share resources from the ACES Field Research Lab and Pollinatarium. Just north of the new facility, a multi-use path will connect Lincoln Avenue to Orchard Downs.

Southeast of the Christopher Illinois Extension Center, a new complex of a conservatory, production greenhouses and lathhouse will be built. Between the updated and expanded Field Research Lab and Christopher Illinois Extension Center will be a trio of new spaces that serve both as activity spaces and quiet / respite spaces for each. The existing hill with its mature trees will be reimagined as a Woodland Hill Walk. Northeast of the hill will be an amphitheater for small group (50-100) outdoor instruction and general socialization. A large activity lawn space will allow for programing and special events to spill out from either building and the amphitheater as needed.

The existing ACES Horticultural Research Field Lab will be renovated with an outreach addition added to the north to both screen the existing building from the new Illinois Extension facility and to provide meeting and classrooms to assist in its expanded outreach. The access drive will be paved and a small parking lot added.

South and east of the Research Field Lab will be a series of existing and new research and exhibit plots to showcase and educate various visitors on new and ongoing research projects and to provide growing examples of various large-scale crop production and management. The Sustainable Student Farm will have demonstration areas for growing, harvesting, and packing/preparing vegetable crops. The main walkway moving south arcs closer to the Pollinatarium and through the shared arboretum and F&S nursery. The Pollinatarium will be brought into the fold on a formal level with a dedicated link from the main path and path connections to the South Arboretum Woodlands. Its drop-off and parking areas will be expanded to better accommodate larger groups and buses. The area around the building will be made more accessible, with added interpretive signage, an outdoor classroom, and more-resilient exhibits and site furnishings.

Continuing south, the F&S Yard will receive major upgrades to both the buildings and yard. It will also gain a roommate. Arboretum maintenance will move from the Research Field Lab to this location to better share maintenance space, equipment, and resources. Arboretum staff will have their own building, modest yard, production greenhouse and shared use of the expanded lathhouse. Major F&S upgrades will include restrooms and an expansion to the existing building, and the majority of the yard will be paved to provide for a clean, safer area and the more efficient processing and delivery of mulch, compost and other bulk goods. The entire area will have upgrades in security, with enhanced fencing, lighting, and cameras. The area will also be well screened, from both Lincoln Avenue and adjacent spaces within the arboretum. A shared nursery will be established in the area to the east. The hedged area to the north, with it's microclimates, is to be trialed as a venue by the arboretum to research and evaluate new plant varieties and those plants that might push their hardiness limits from USDA Zones 6 and 7. The largest space with the hedges reimagined as a display garden for the most promissing selections and a new event space for the southern arboretum.

Heading farther south, the main path will terminate at the third pavilion, providing much needed restroom, shelter, event, and classroom accommodations to the Southern Arboretum Woodlands (SAW) and the Pollinatarium. A series of paths will circumnavigate the woods, and in conjunction with the existing east-west road, will facillitate education and recreation by providing access to the woods and to the two soil pits. A small parking lot and drop-off will help anchor this southern portion of the site. Along the Windsor Road frontage, especially under the somewhat cleared overhead utilities, woodland edge screen plantings will be established to enhance the frontage and create a more natural experience for SAW patrons. The corners of Lincoln and Windsor Avenues and Windsor Avenue and Private Drive will receive markers denoting the ACES Legacy Corridor and the arboretum.

PLAN NOTES

1. Pedestrian Connection to Campus
2. North East Prairie Display Garden
3. F&S Garage & Access
4. Path Connection to Sesquicentennial Garden
5. Sesquicentennial Garden
6. Expand Idea Garden Enclosure to Capture East Gardens
7. Parking and Stormwater Detention
8. Welcome Plaza and Pavilions
9. Renovated Miles C Hartley Selections Garden
10. Formal Axial Connection to Orchard Downs
11. Amphitheater and Stage
12. Hosta Society Display Garden & Boardwalk
13. Sycamore Peninsula
14. Japanese Stroll Garden
15. Japan House and Expansion
16. Nut Grove
17. Interactive Gardens
18. New Illinois Extension Building
19. Amphitheater / Classroom
20. Event Lawn
21. Woodland Hill Walk
22. ACES Research Outreach Addition
23. Conservatory / Expanded Production Greenhouses / Staging Area / Lath House
24. ACES Research Plots
25. Align Roads
26. Climate Change Evaluation Garden
27. F&S/Arboretum Tree Nursery
28. Arboretum Yard
29. Arboretum Maintenance Building
30. Arboretum Production Greenhouse
31. Expanded Lath House / Staging
32. Red Bison Shed
33. Soil Pit
34. Southern Arboretum Woodland Paths
35. Enhanced Windsor Ave. Frontage
36. Upgraded Corner Planting
37. Proposed F&S Expansion
38. Improved F&S Yard
39. Shade Garden
40. Bike and Vehicular Path
41. Amenity Pavilion
42. Cross-Country Courses
43. Shrub Evaluation Garden
44. Enhanced Pollinatarium Outdoor Exhibits

North

Scale 1” = 400’

0’ 100’ 400’ 800’

Master Plan

PLAN NOTES

1. North East Arboretum Entry Plaza
2. Enhanced North East Prairie
3. Prairie Demonstration Garden
4. F&S Shed
5. North East Arboretum Maintenance Yard
6. Connection to Orchard Downs
7. Arboretum Circulation
8. Illinois Heritage Plantings
9. Sesquicentennial Garden
10. Council Ring
11. Romweber and Santogrossi Families Linden Allée
12. Welcome Plaza & Pavilions
13. Idea Garden Expansion
14. Idea Garden
15. Flex Lawn / Event Parking
16. Sidewalk along Lincoln Avenue/Florida Avenue
17. Permeable Parking Lot & Stormwater Management
18. North West Arboretum Maintenance yard
19. Oak Grove
20. Baldcypress Grove Boardwalk
21. Access Path to Bridge
22. Japanese Stroll Garden
23. Enhanced Stormwater Ponds
24. Event Lawn
25. Magnolia Golden Grove
26. Sycamore Peninsula
27. Baldcypress Shade Garden
28. Hospitality Pavilion
29. Drummer Soil Pit
30. Nut Grove
31. Cross-Country Courses
32. Magnolia Hill

North

Scale 1" = 250'

0' 125' 250' 500'

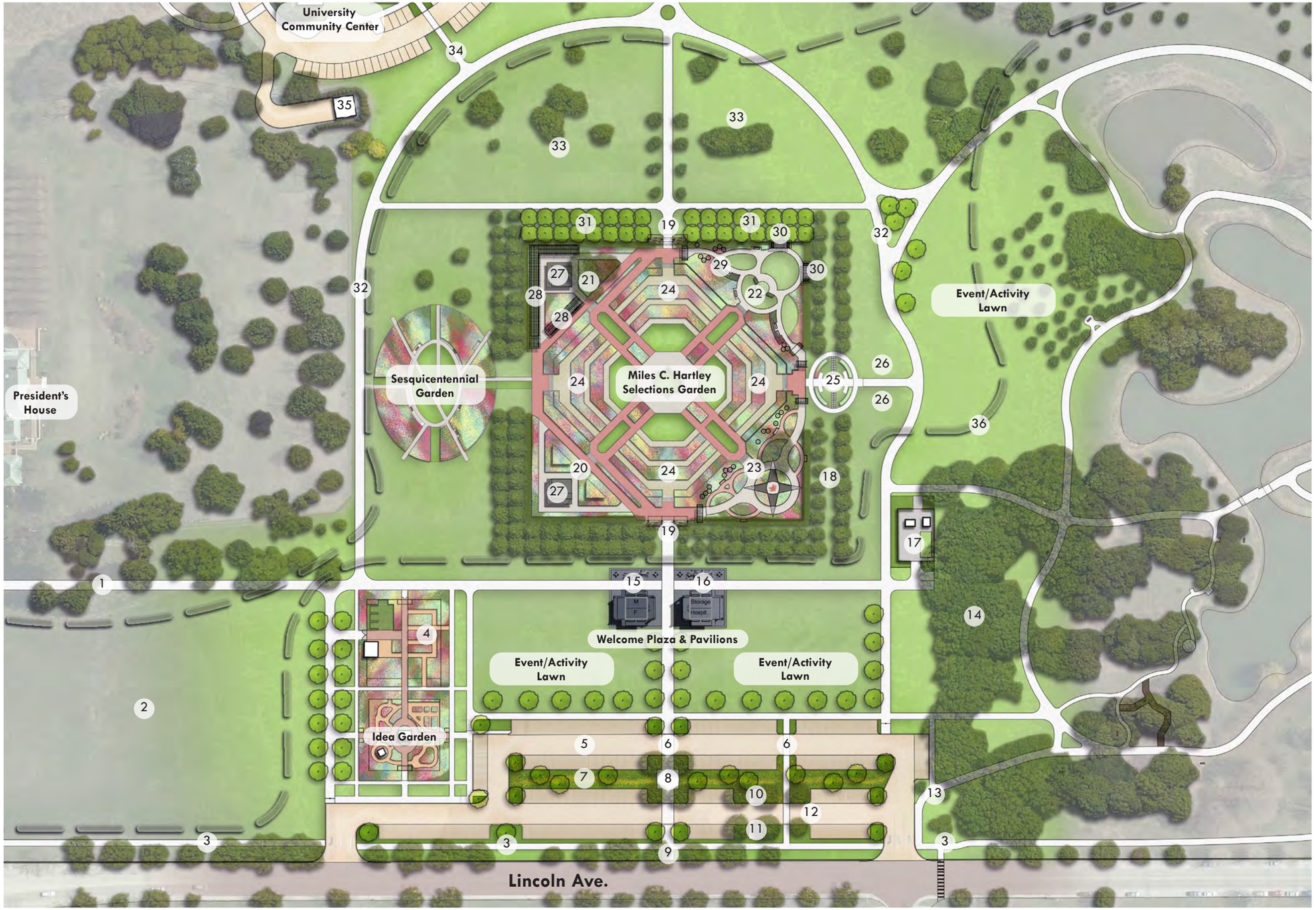
PLAN NOTES

1. Shade Garden
2. Research Gathering Arbor
3. Weed, Insect, and Disease Identification Plots
4. Research Gateway Arbor and Seating
5. Sustainable Student Farm Demonstration/Research Plots
6. Event Lawn and Amphitheater/Classroom
7. Woodland Hill Walk
8. Research Outreach Planting Beds
9. Research Outreach Building and Outdoor Classrooms
10. Conservatory
11. Laydown Yard, Lathhouse, Greenhouses (2), and Headhouse
12. Field Research Lab
13. Research and Outreach Yard
14. Morrow Plots Expansion
15. Climate Change Evaluation Gardens
16. Zone 7 Garden and Event Space
17. Pollinatarium with Accessible Exhibits and Outdoor Classroom
18. Prairie
19. F&S / Arboretum Tree Nursery
20. Southern Arboretum Woods Gateway
21. Red Bison Shed
22. Hospitality Pavilion, Outdoor Classroom, and Activity Lawn
23. F&S Building Renovation and Expansion
24. Expanded Lathhouse
25. Fueling Yard
26. Arboretum Maintenance Building and Greenhouse
27. South Arboretum Maintenance Yard
28. Material Yard Bins and Berm
29. Woodland Buffer and Permaculture
30. Shrub Evaluation Plots
31. Permeable Parking Lot
32. Flannigan Soil Pit
33. Arborgetum Circulation
34. Stormwater Facility
35. Cross-Country Courses

North

Scale 1” = 250’

0’ 125’ 250’ 500’



PLAN NOTES

1. Connection to Florida Avenue
2. Flex Lawn/Event Parking
3. Pedestrian Sidewalk along Lincoln Avenue
4. Idea Garden Expansion
5. Permeable Parking Lot/ Stormwater Storage
6. Pedestrian Crossing (Speed Table)
7. Bioswale
8. Interpretive Signage (Green Infrastructure)
9. Bus Stop
10. Motorcycle Parking
11. Bike Parking
12. Protected Donor Trees
13. Connection to Japan House
14. Oak Grove
15. Pavilion - Restrooms
16. Pavilion - Storage + Hospitality
17. Arboretum Satellite Maintenance Yard
18. Romweber & Santogrossi Families Linden Allée
19. Hartley Garden Entry Arbor
20. Prairie Garden
21. Woodland Garden
22. Accessibility Garden
23. Winter Garden
24. Selections Garden
25. Council Ring
26. Wedding Seating Lawn
27. Shade Shelters
28. Shade Arbors
29. Raised Accessible Planters
30. Green Screen Wall
31. Replanted East Side Allée
32. Walk Circulation System
33. Illinois Heritage Tree plantings
34. Connection to Horticulture Field Lab (University Community Center)
35. F&S Shed
36. Cross Country Course

North

Scale 1" = 125'

0' 62.5' 125' 250'

North Focus Area

North Area Perspective

The north collection of established gardens is interconnected through a series of walkways. A large parking lot anchors the entry experience while serving as the area's stormwater facility via permeable paving and underground storage. A welcome plaza with two amenity pavilions provides welcome hospitality in the form of restrooms, a variety of seating options, a storm shelter, storage and serving kitchen - making this area and its adjacent open lawns a premier event space for the arboretum, campus and community. The Horticulture Field Laboratory (top center) is reimagined to serve as a community center, strengthening the university's outreach into the community. Two satellite maintenance facilities on the east and south provide convenient access to supplies and tools for both arboretum staff and volunteers.

Welcome Plaza - looking East

A new welcome plaza and pavilions bring much-needed hospitality and creature comforts to the arboretum. The also provide social and study spaces and help support activities to be scheduled on the adjacent event lawns.

Welcome Plaza - Northwest

Surrounding the pavilions are multiple terraces with a variety of seating options and outdoor classrooms, creating a jumping-off point for time spent learning, relaxing and recreating at the arboretum.

Miles C. Hartley Selections Garden

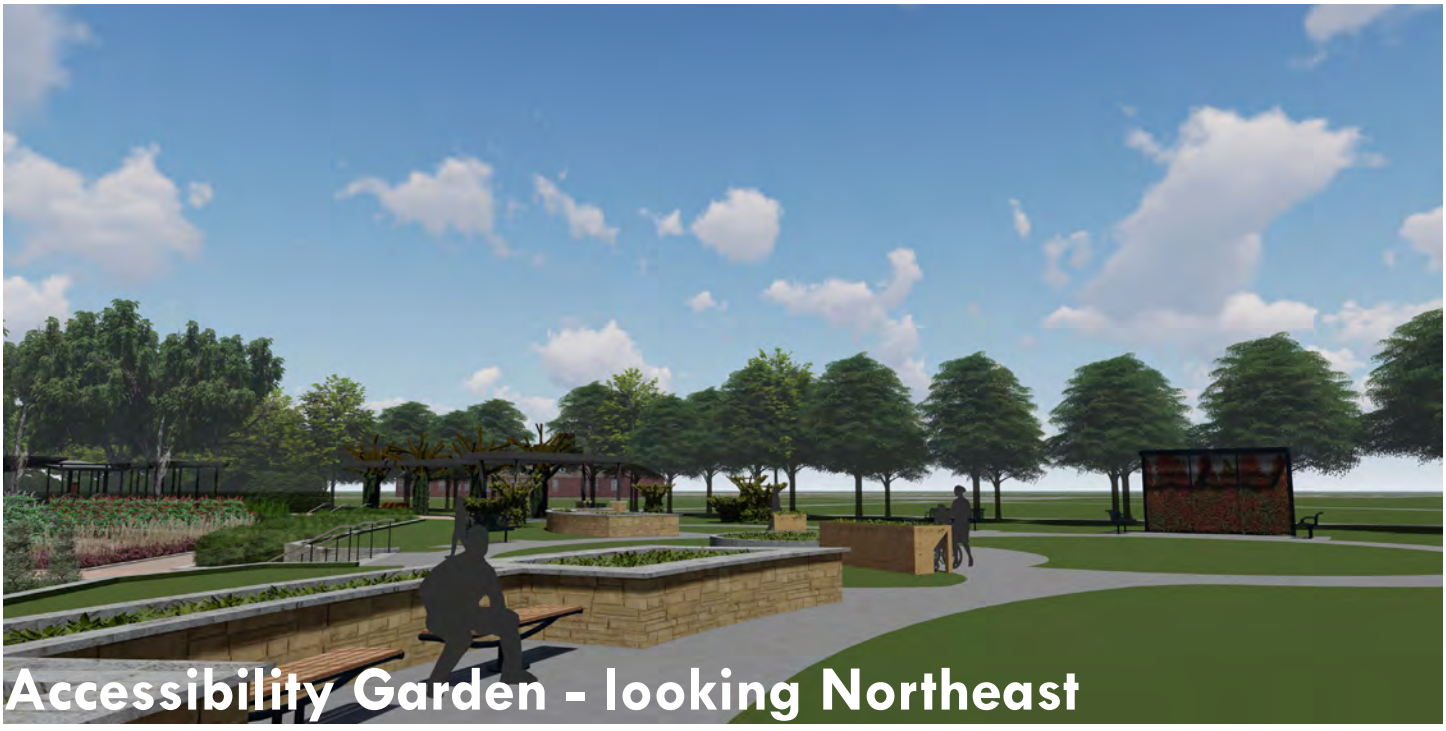
The Hartley will be reinvigorated to provide scaled-back selection displays of evaluated annuals, perennials and shrubs, along with the addition of collections of large and small areas highlighting ecosystems, themed gardens and event spaces.

Hartley Garden Entry Trellis

Formal entrances will grace the east and west sides. The sculptural metal trees complement the existing rows of enclosing trees. Ornamental vines will cover the tree frameworks, adding an underrepresented group of plants to the Arboretum.

Winter Garden - looking Northwest

The southwest corner of the Hartley will become a Winter Garden, providing display and education on plants with late fall, winter and early spring interest.



Accessibility Garden - looking Northeast

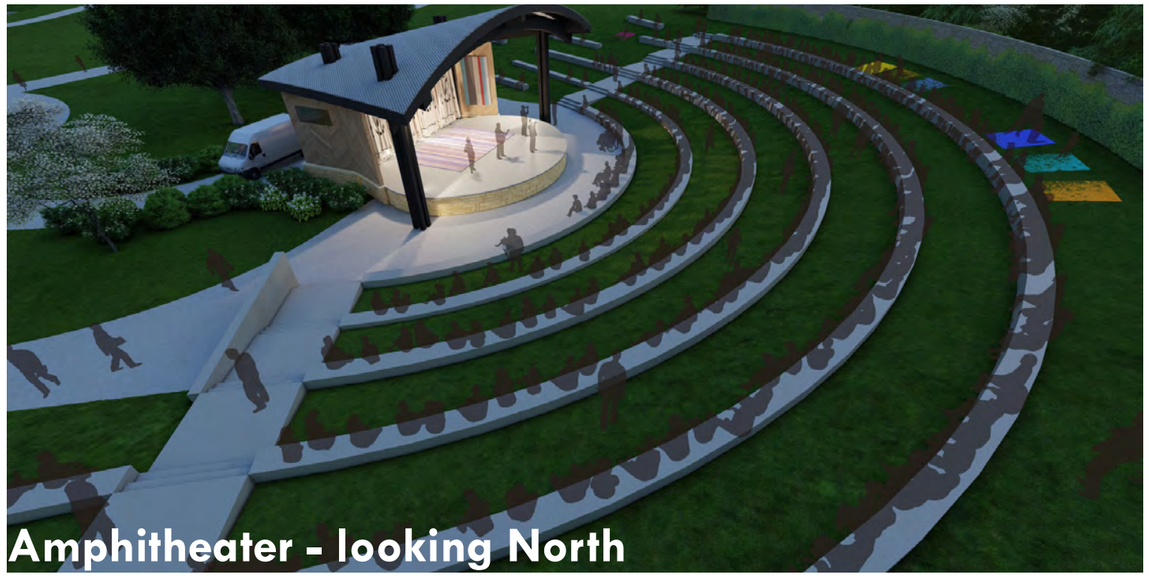
The development of the Accessibility Garden will continue with added accessible gardening examples utilizing vertical and accessible planters and displays of multi-sensory plant species.

Shade Arbors at Woodland Garden

The northeast corner of the Hartley will focus on the display and culture of woodland and shade species. Metal shade arbors will provide immediate shade for new plantings and a shady respite for guest. Twin shelters, here and in the Prairie Garden directly west, provide covered spaces and amenities for hosting spontaneous activities and event rentals.

Amphitheater Site Perspective

The arboretum will be home to a new 400+ seat amphitheater and pavilion, for hosting performances, lectures, weddings, meetings and other events. Back-of-house amenities will include changing rooms, restrooms, a green room and storage.

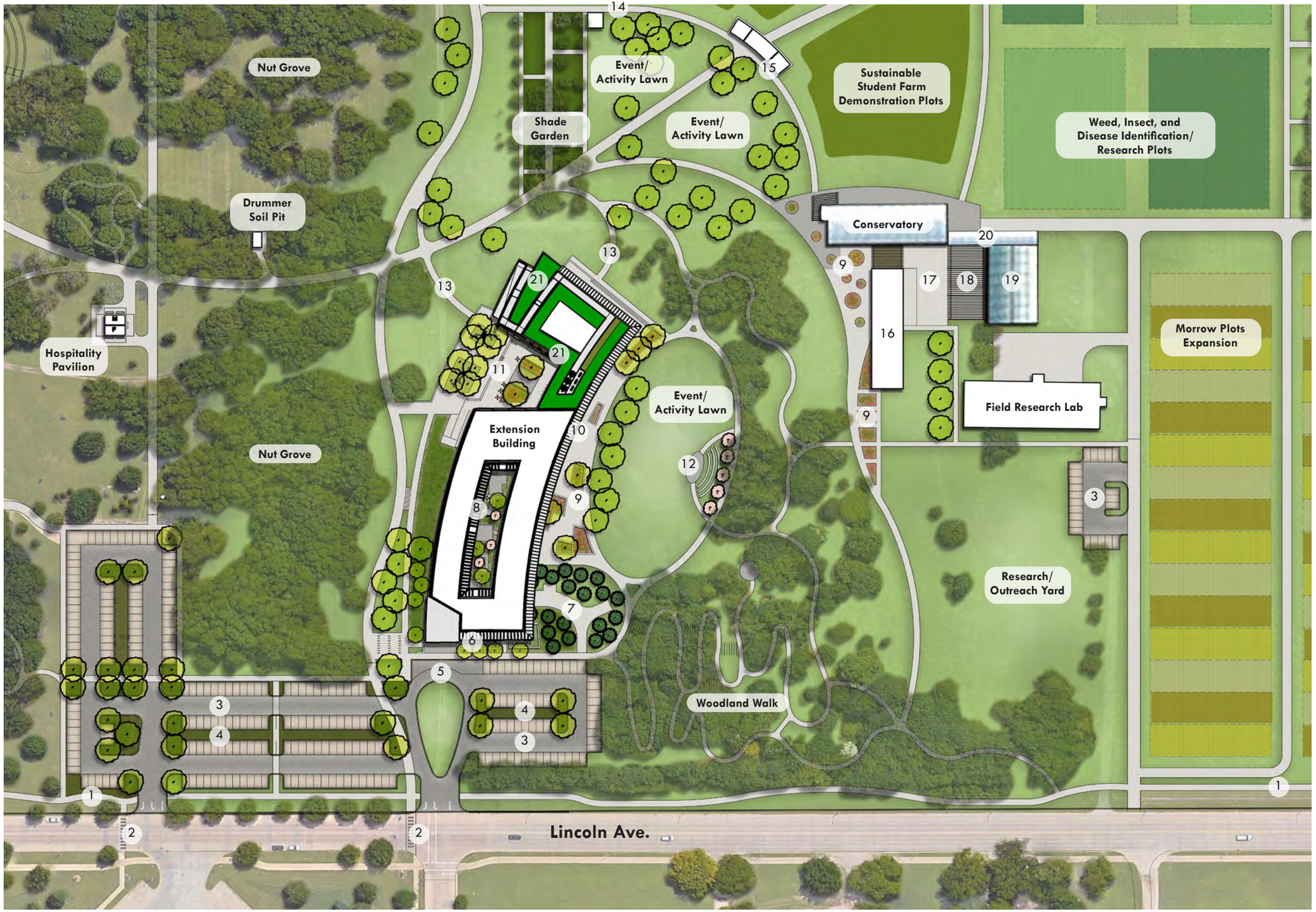


Amphitheater - looking North

The amphitheater will expand the venues available for cultural events hosted by Japan House, the Illinois Extension Building and other campus departments and community groups.

Amphitheater Entry - looking East

Dense plantings, berming and a masonry wall backdrop will provide a sense of enclosure and help make the facility a good neighbor to housing to the east.



PLAN NOTES

1. Pedestrian Sidewalk along Lincoln Avenue
2. Pedestrian Crossing
3. Permeable Parking Lot & Stormwater Storage
4. Bioswales
5. Main Entry/Drop Off
6. Entry Plaza and Cafe Courtyard
7. Utility Driveway/Deliveries
8. Courtyard
9. Demonstration Planting Beds
10. Outdoor Seating/ Interactive Plaza
11. Upper and Lower Arboretum Entry Courts
12. Amphitheater/ Outdoor Classroom
13. Connection to Arboretum Circulation
14. Research Gathering Arbor
15. Research Gateway Arbor + Seating
16. Research Outreach Building w/ Outdoor Classrooms
17. Research/Exhibit Yard
18. Lathhouse
19. Research/Production Greenhouses
20. Headhouse
21. Accessible Green Roofs

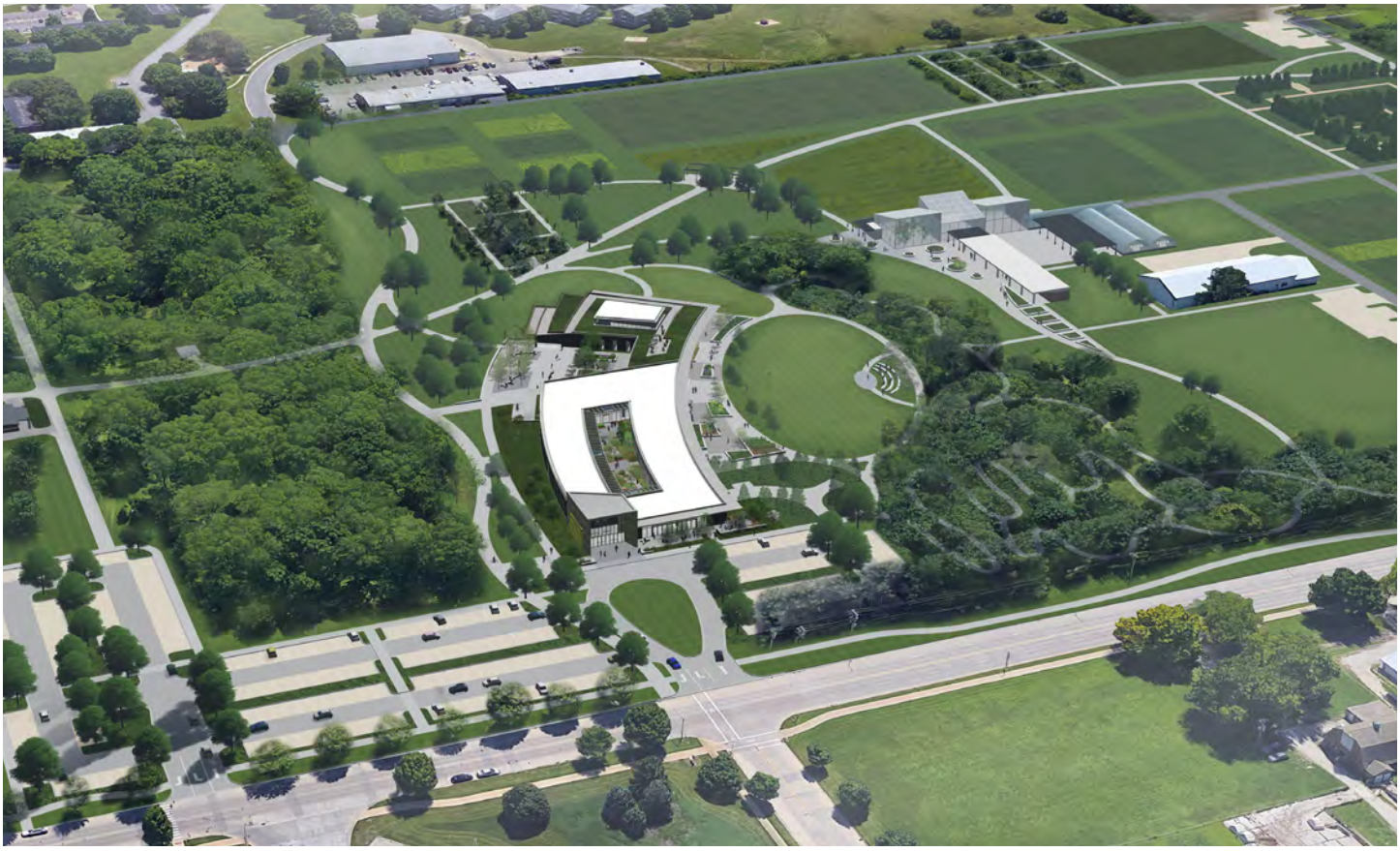
North

Scale 1” = 125’

0’ 62.5’ 125’ 250’

Central Focus Area

Central Area Perspective



The location of a new Illinois Extension facility - The Doris Kelley Christopher Illinois Extension Center - will anchor the corner of Lincoln Avenue and Hazelwood Drive, bridging the north and south portions of the arboretum, greatly enhancing the collaboration and outreach within the College of ACES. The adjacent parking lots will serve the new facility, Japan House and the arboretum. A multi-use path directly north of the new building will link Lincoln Avenue to Orchard Downs. The new facility will be surrounded with educational and display gardens, an oval event lawn, and a +/- 75 person outdoor amphitheater/classroom. Outside these core spaces, the Nut Grove to the north, Hillside Garden to the south, new conservatory, production greenhouses, Sustainable Student Farm demonstration area and research plots further enhance the outreach potential.

Christopher Illinois Extension Center - looking East

The main entry of the building serves as a beacon for those approaching via Lincoln Avenue, providing a generous drop-off for guest and large school groups.

Christopher Illinois Extension Center - Northwest

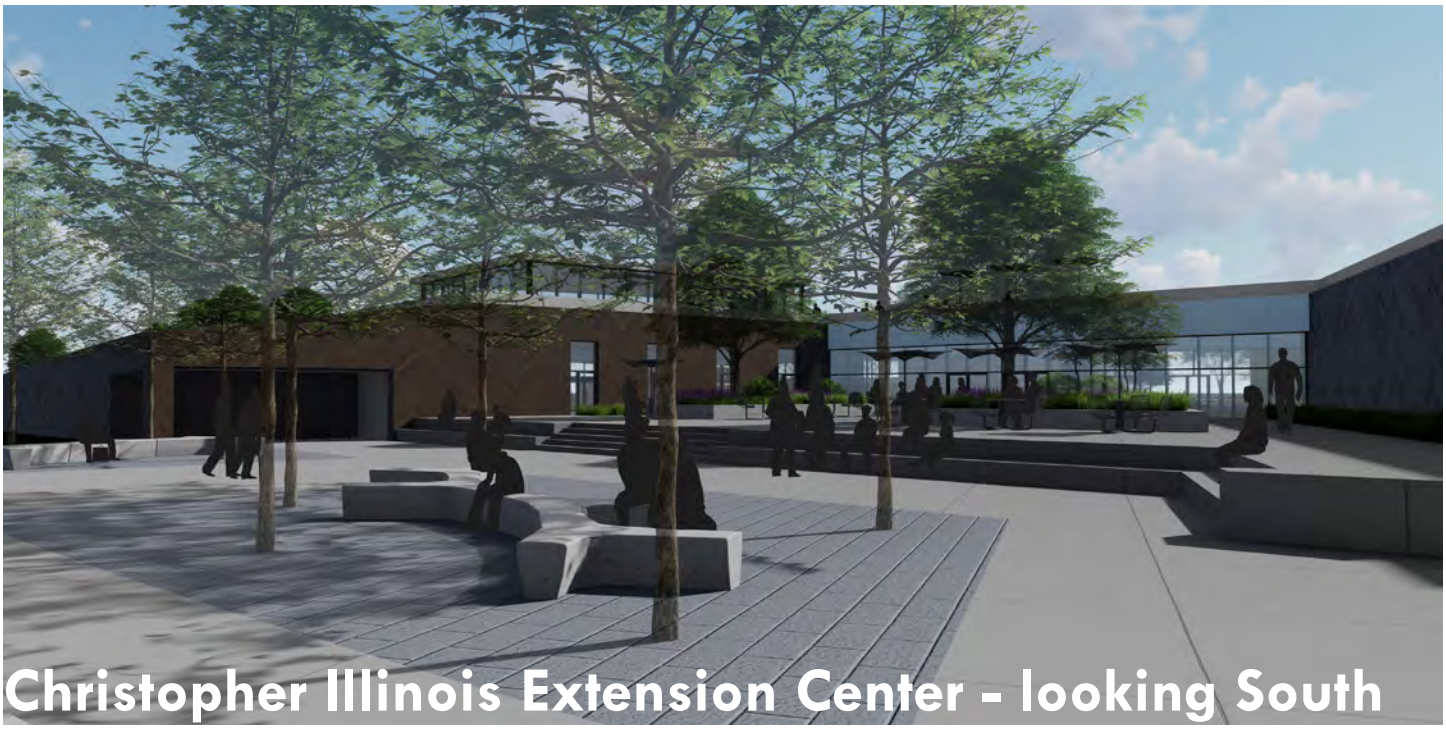
The entry plaza provides a welcoming point for bicyclists and those using the multi-use path. Seat walls provide enclosure and places to wait for a ride or get some fresh air.

Christopher Illinois Extension Center - Southwest

Adjacent to the main entry, a series of doors allows activity in the lobby to spill out onto a shady terrace. Farther south, the corner cafe has its own walled terrace for outdoor dining.

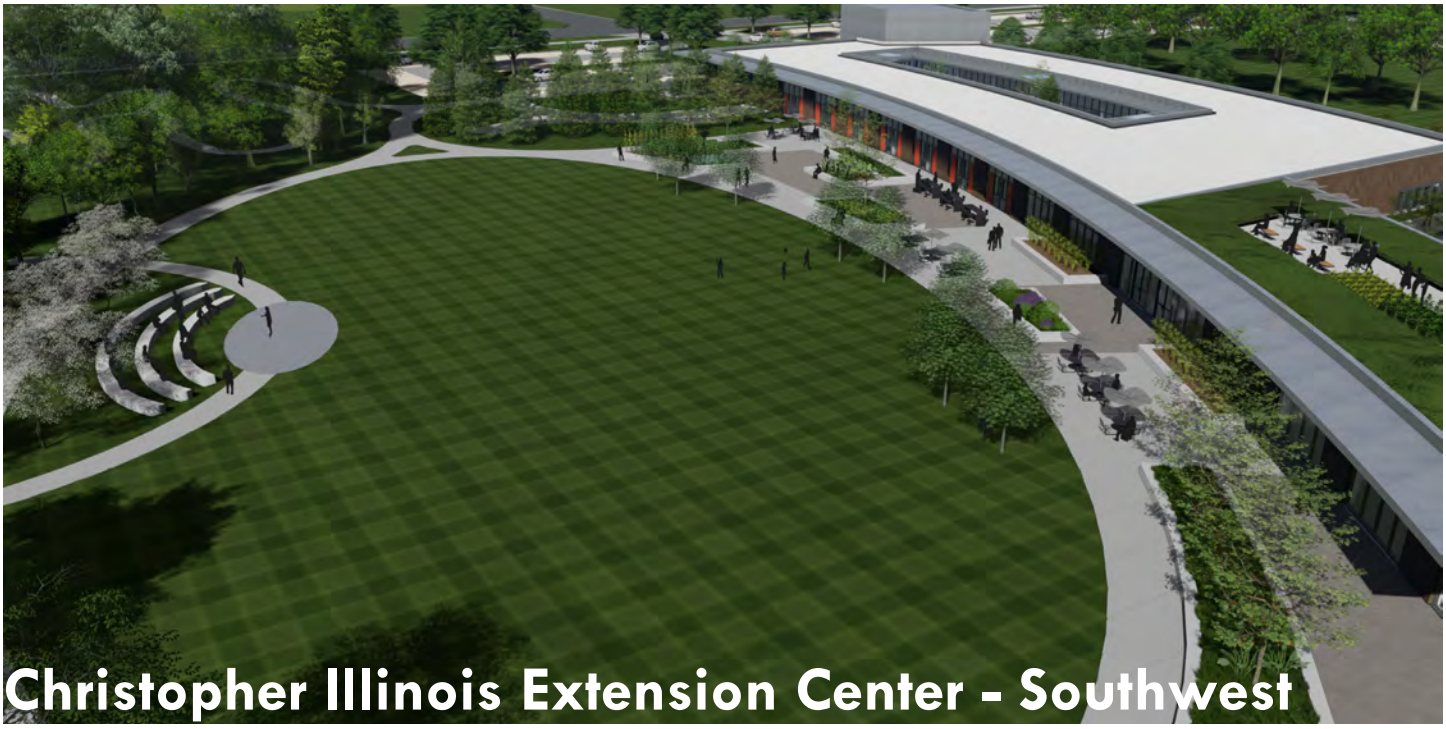
Christopher Illinois Extension Center Courtyard

A generous courtyard ensures every building user has access to daylight and views of nature. The space offers seating options for individuals and small groups to gather for meetings or a moment's respite.



Christopher Illinois Extension Center - looking South

The facility's north entry has its own variety of seating options and an upper terrace encouraging adjacent building activities to spill out into nature. It also serves as the entry point for the building's accessible green roof.

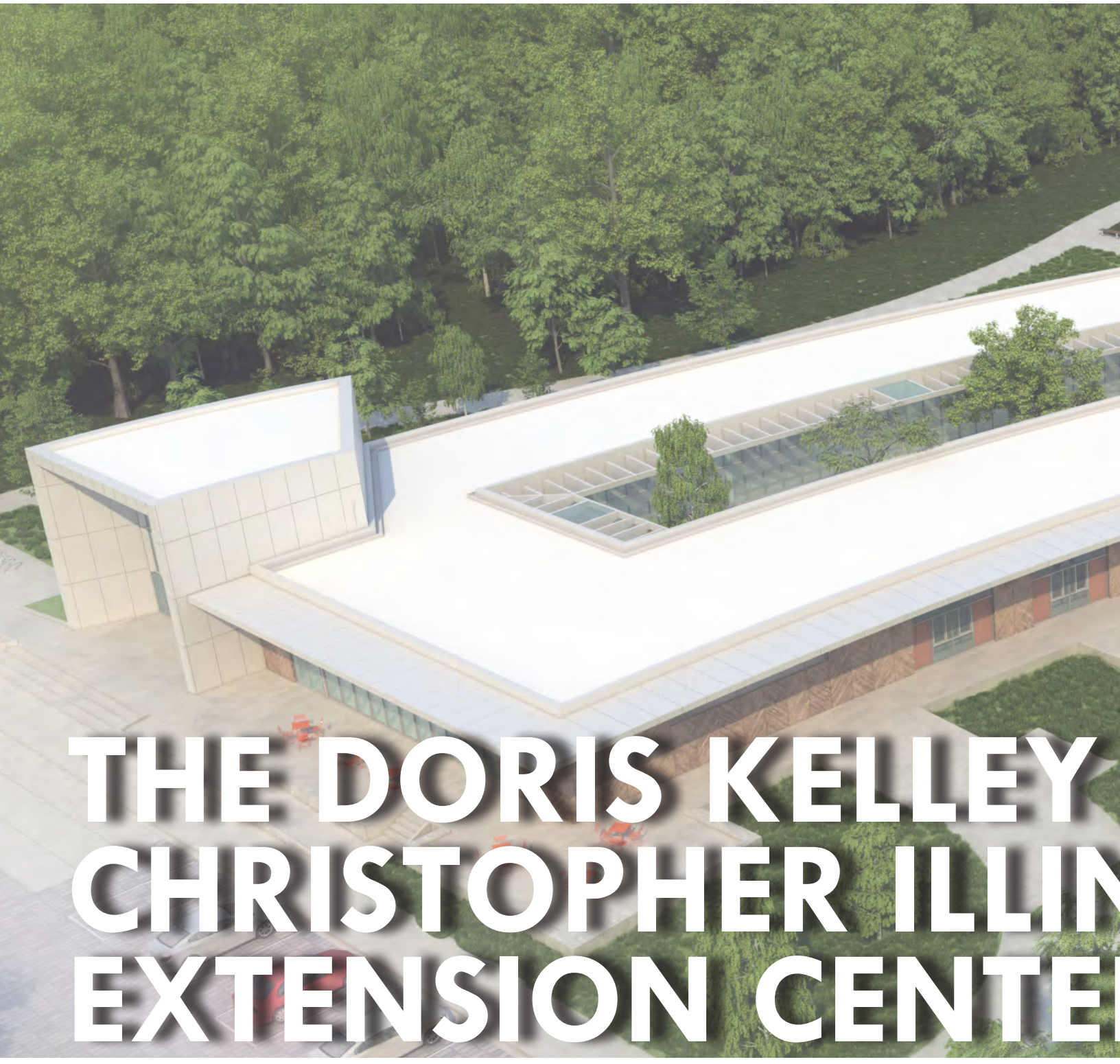


Christopher Illinois Extension Center - Southwest

The south flank of the building offers a variety of gathering spaces and educational planting areas to showcase Illinois Extension's missions. The oval event lawn serves as the building's quadrangle, with an amphitheater/ classroom to the south.

Conservatory and Research Outreach Addition

A conservatory creates a unique events venue, space to experience “green” in the middle of winter, and gives the arboretum the ability to overwinter tropical plant specimens. Three separate rooms allow for multiple ecosystem exhibits and a flexible space for seasonal display and plant society meetings and shows. The adjacent indoor / outdoor Research Outreach will provide additional staff, meeting and display spaces to allow the adjacent research to be interpreted and shared in real time to a broad audience.



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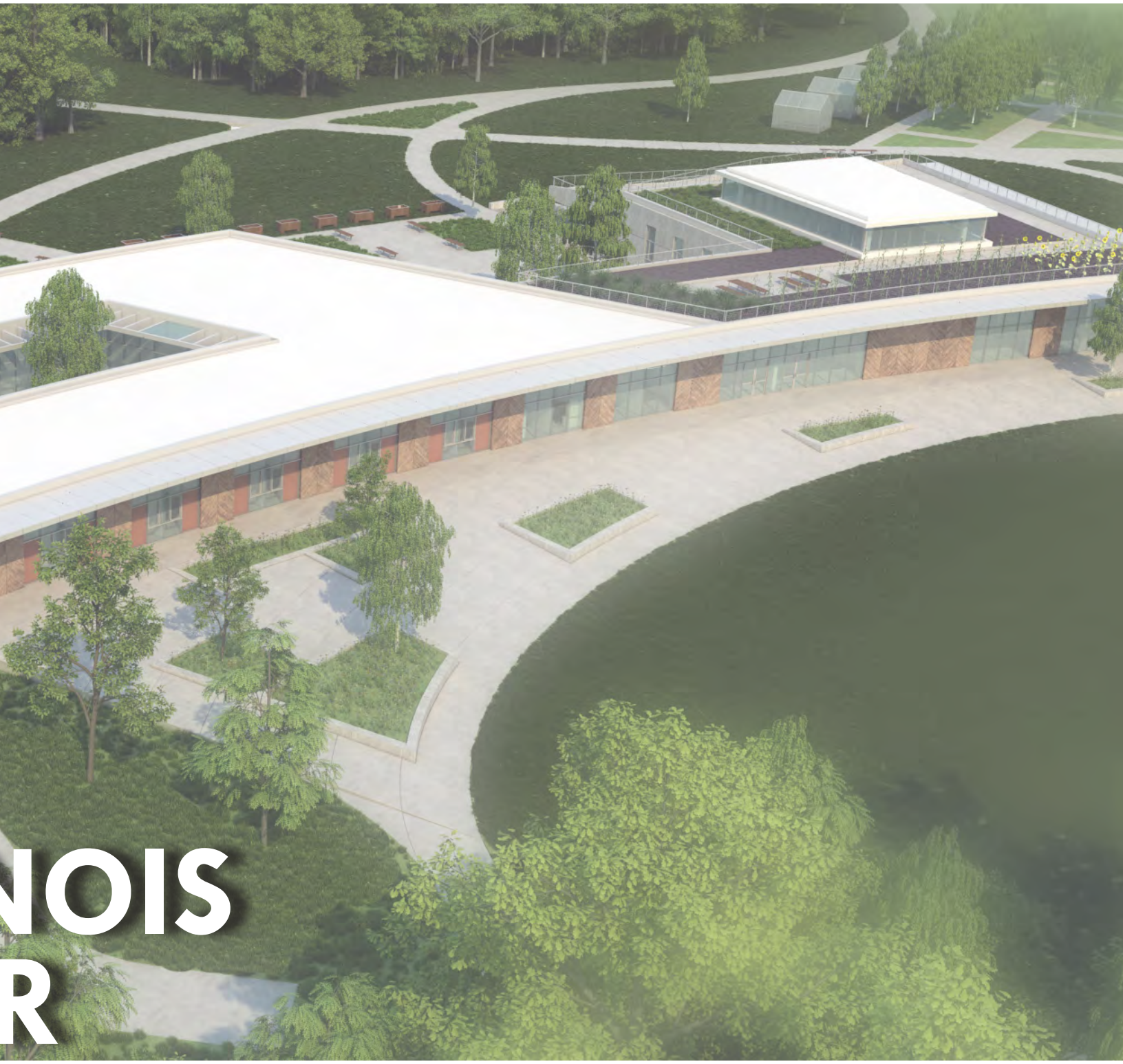

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The Doris Kelly Christopher Illinois Extension Center

This study for The University of Illinois Extension aims to consolidate several extension programs currently spread around Champaign into a new Extension Center. This new Extension Center is to be located on the current grounds of the University of Illinois Arboretum.
The new Extension Center is designed with a focus on practical education programs in five broad areas:

- Energy and environmental stewardship
- Food safety and security
- Economic development and workforce preparedness
- Family health, financial security, and wellness
- Youth development

Operating within the College of Agriculture, Consumer and Environmental Sciences (ACES) the Extension Center will be the home to six main user groups/departments.

- Agriculture and Natural Resources (ANR)
- Community and Economic Development (CED)
- Family and Consumer Sciences (FCS)
- 4-H
- Information Technology
- Administration

Beginning in spring 2020, the design team of Moody Nolan (architecture) and Hitchcock Design Group (landscape architecture) began a series of user workshops, design studies, and site visits. These exercises were used to validate the building program, create an approach to sustainability, and discuss design ideas.

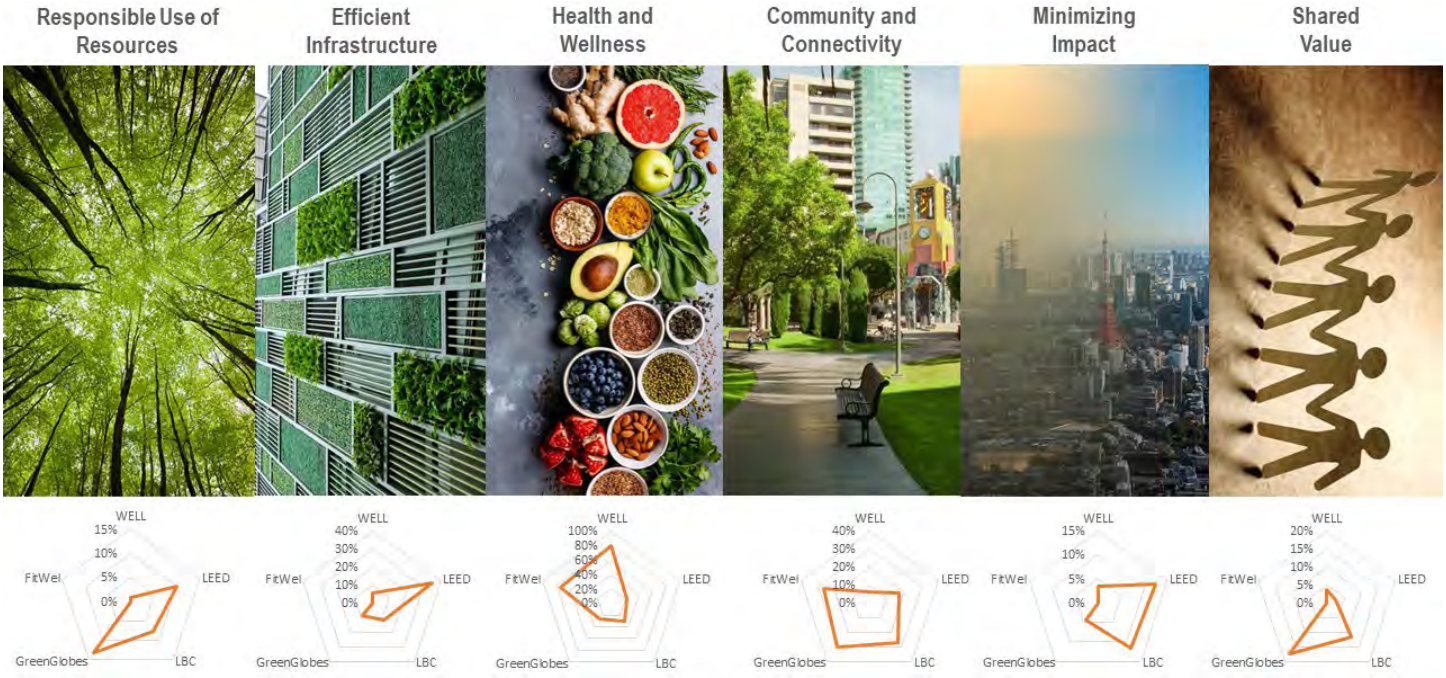
Initial program and facility space requirements were provided to the design team and are based upon a previous study completed by Reifsteck Reid in February 2019. A series of user workshops and a review of departmental spaces requirements validated the necessary areas needed for a successful new facility. A total building size of 30,947 square feet on a single floor was agreed upon.

The approach to sustainability for the Extension Center are intertwined within the building's location within the U of I Arboretum. The facility is to be seen not only as a highly efficient and sustainable building, but also as an educational tool. Visitors will be able to see and learn from real world applications of sustainable design principles and innovative environmental technologies.

Design direction for buildings appearance was established through the review of precedent projects and an iterative design process that allowed for healthy dialogue between the design team and the users. Ultimately the user groups established a consolidated collection of precedent images. These images were used to further develop the architectural aesthetic and construction materials as this study continued towards the completion a unified design solution for the Extension Center.

This unified design solution exemplifies not only the functional and spatial needs of a new Extension Center but also aims to fulfill the buildings larger mission. By serving the College of ACES and all their affiliated programs, this building will serve as a central location to promote education and equity in central Illinois region.

Sustainability Strategies



Aligning Goals / Vision

Approach to Sustainability

Discover, interpret, and disseminate knowledge in the plant sciences and applied arts by providing an aesthetically enriched setting for education, research, conservation, and enjoyment.

RESPONSIBLE USE OF RESOURCES
- Water Consumption
- Sourcing of materials
- Opportunities for material reuse
- Reduced impact to surrounding site

RESOURCE NEUTRAL
- Net-zero Energy
- PV/Geothermal

REGENERATIVE
- Restoring surrounding environment

Approach to Driving Sustainability at the UIUC

ISEE

Advance goals to be climate neutral by 2050 and advance the efforts of the Institute for Sustainability, Energy and Environment

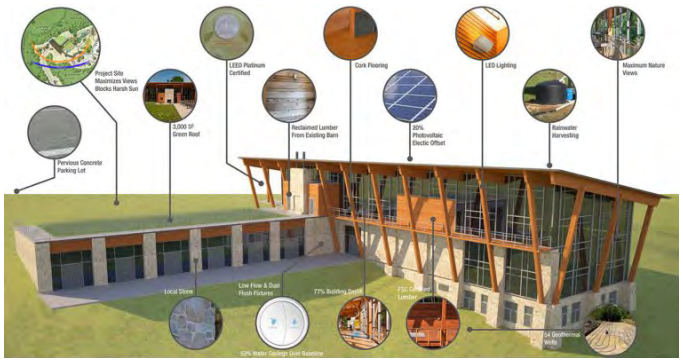
U.S. GREEN BUILDING COUNCIL USGBC

Reinforce University vision for green buildings by advancing campus-wide commitment to meet LEED green building standards

Contribute to the vision of tying campus sustainability to research and education - creating a "living laboratory"

Precedent Buildings

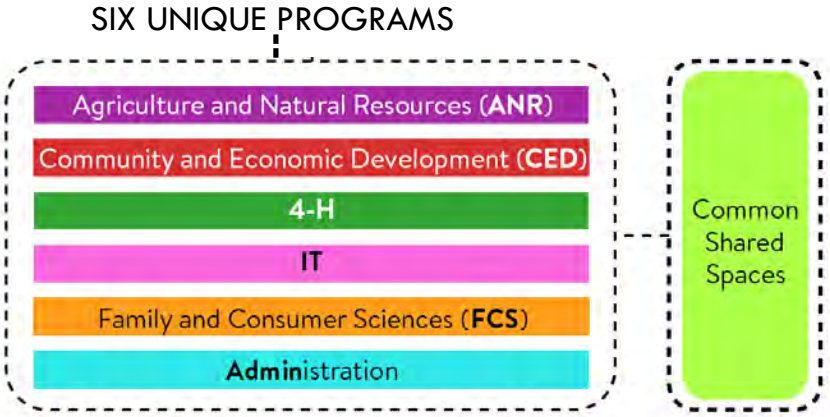
Precedent projects were discussed as a way for the design team and user groups to share like and dislikes. Similar projects provide examples for building features and aesthetic that can be used in the development of the Extension Center.

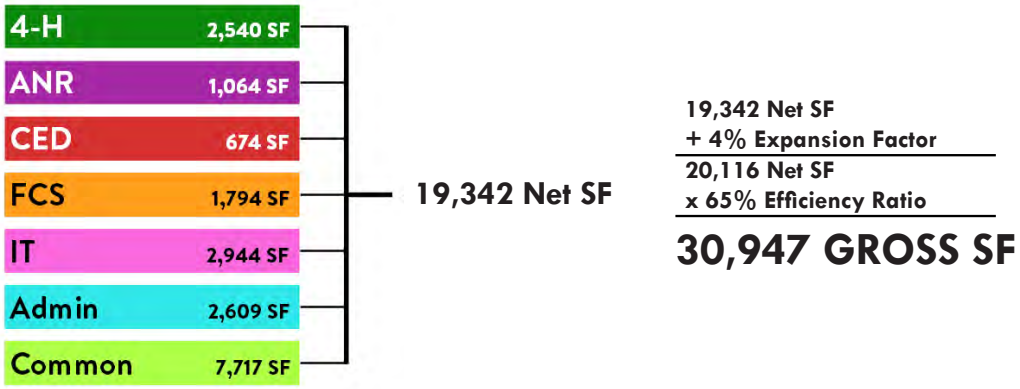


Extension Building

Program Validation

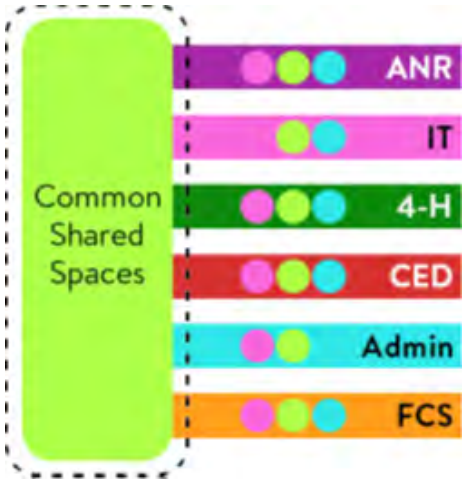
Verification of the included programs/ departments to be included in the new Extension Center resulted in an agreed upon building program a total gross square footage.





Program Square Footage

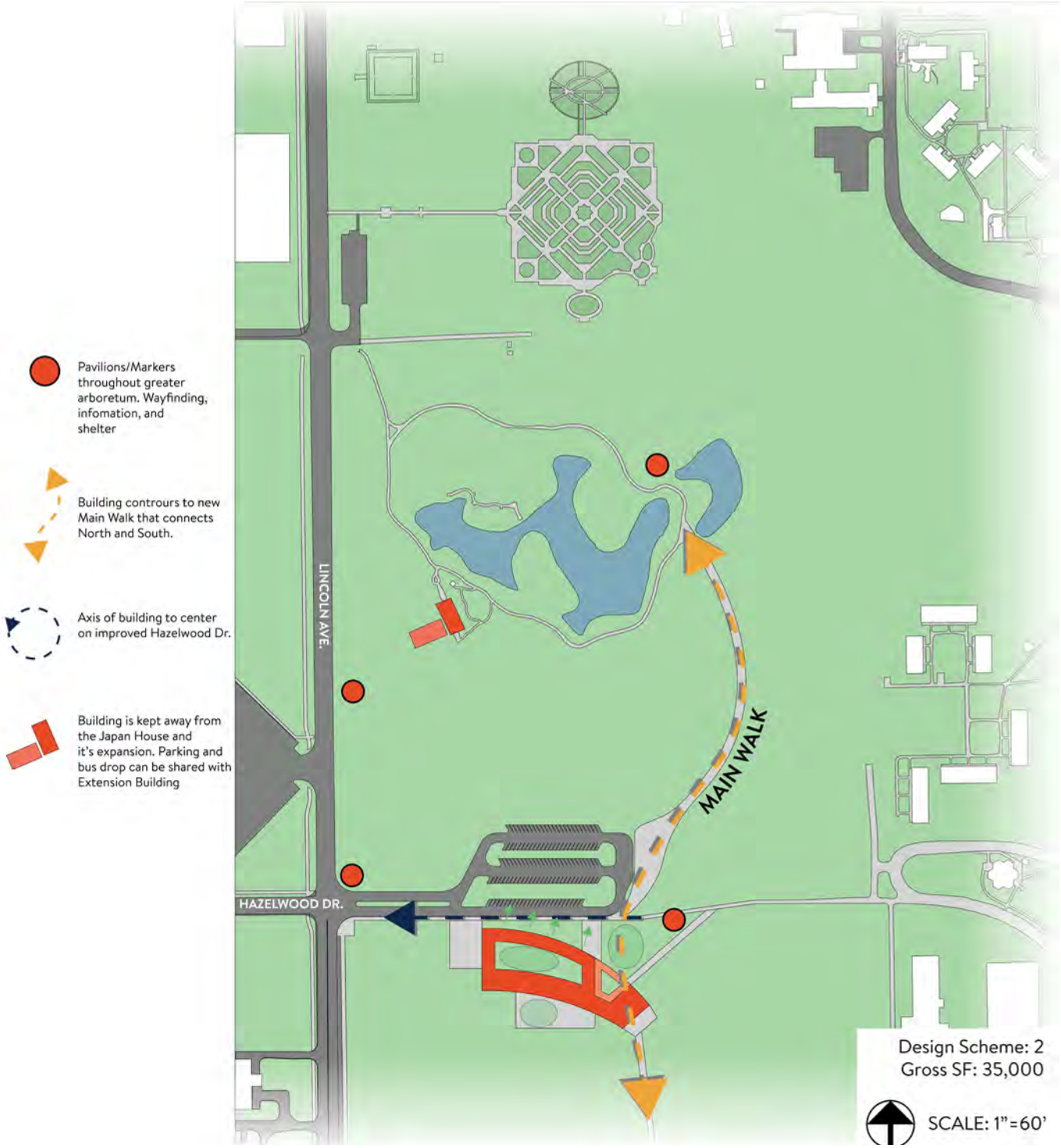
Common space, administration, and IT are distributed within each individual program "neighborhood." Smaller conference and meeting rooms are paired with a specific department to avoid scheduling conflicts. Large common spaces are still shared by all.



Neighborhoods Diagram

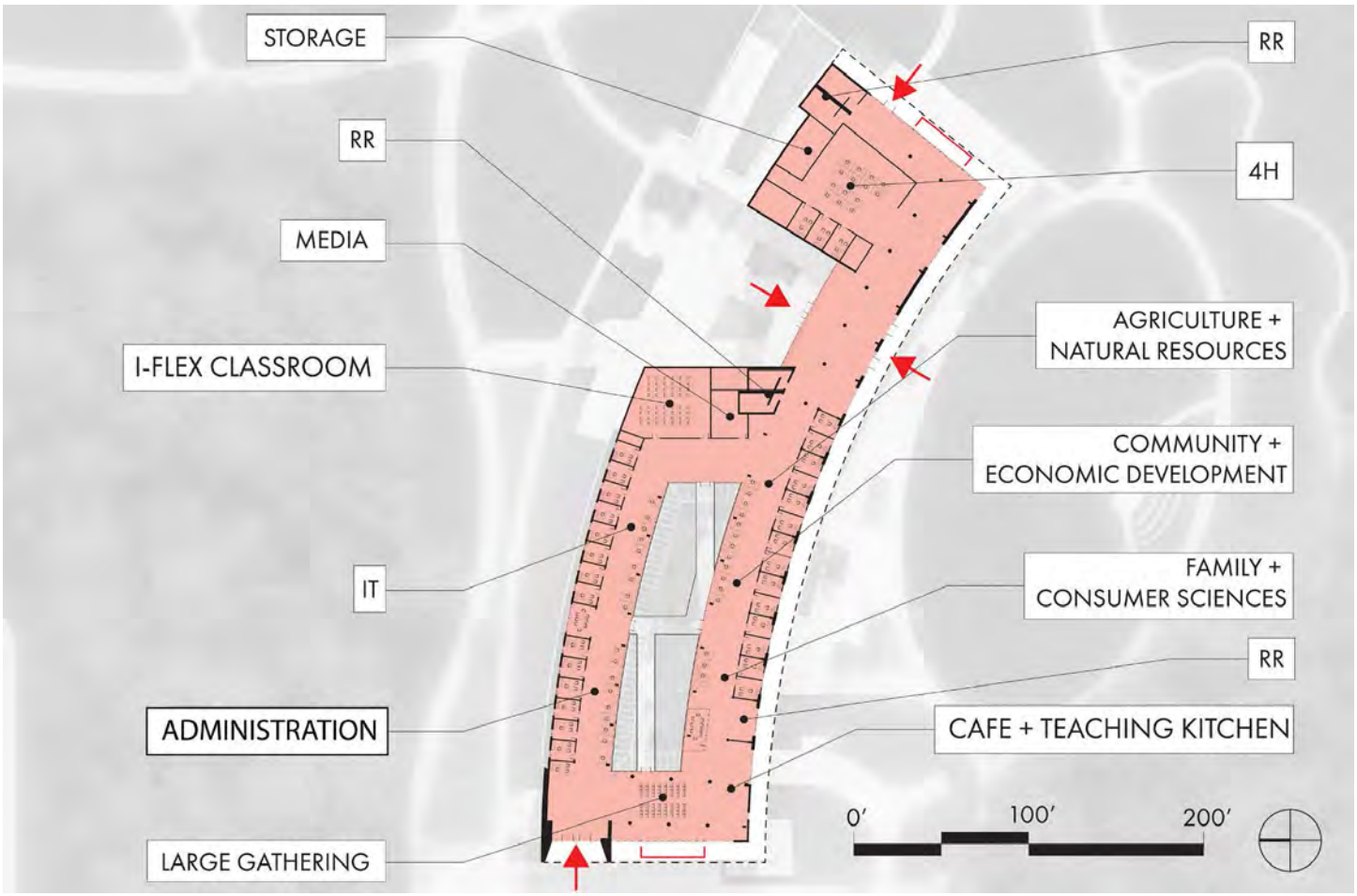
Schematic Site Plan

The curved form of the building does so to minimize the displacement of existing trees, while maximizing visibility from Lincoln Ave.



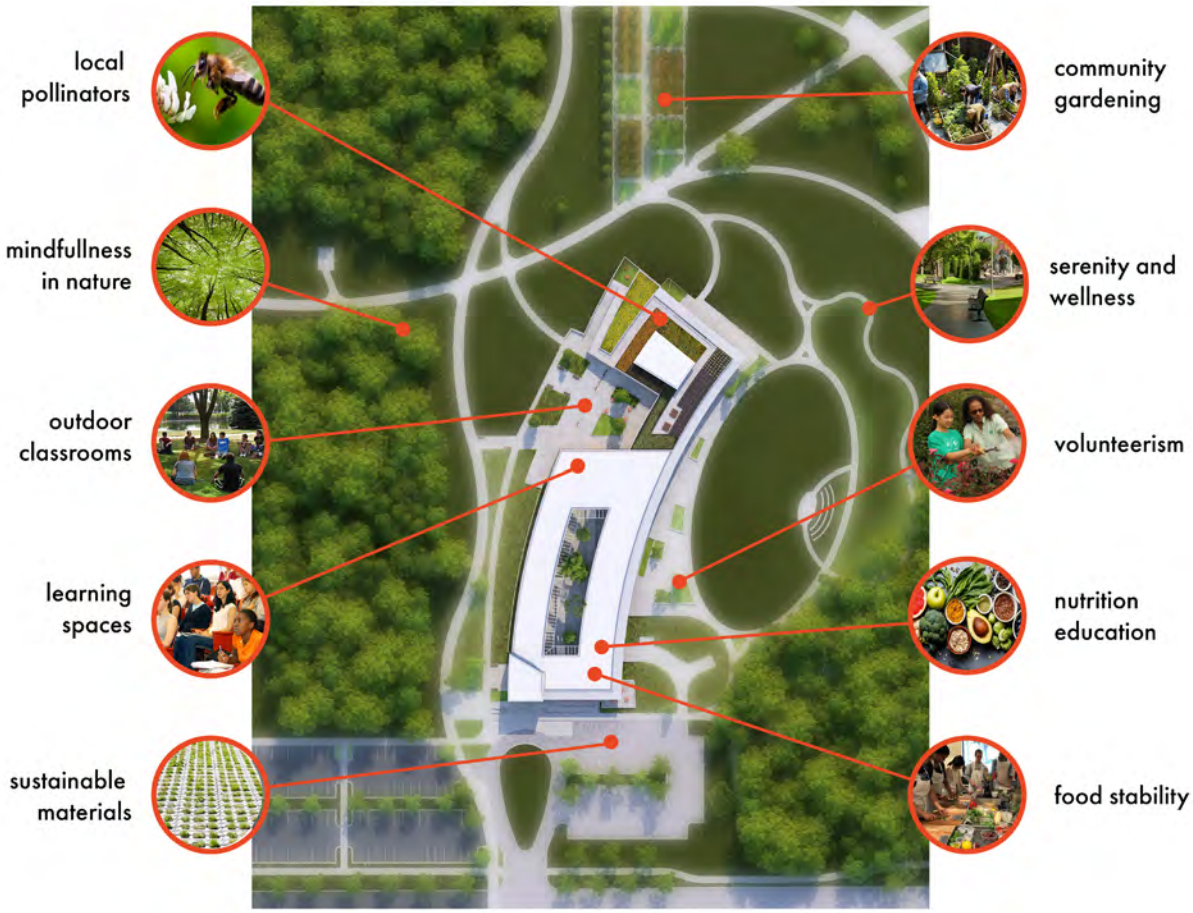
Schematic Ground Floor Plan

A courtyard configuration maximizes daylighting into the building and increasing visibility through the spaces. The concave southern wall allows for effective glare and heat gain protection. Northern views allow for long vistas towards the arboretum pond.



Space and Environment Diagram

Demonstration gardens adjacent to the building help to teach about sustainable food supplies. Indoor/outdoor learning spaces able to accommodate large and small groups spread out into the surrounding arboretum.



Exterior Renderings

Exterior Renderings

APPENDICES

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Meeting Summary

Date: March 23, 2020
Time: 10:00 AM – 12:00 PM
Location: Skype Conference Call

Attendees: Stakeholders / End Users
Kimberlee Kidwell – ACES (College of Agricultural, Consumer and Environmental Sciences) Dean
Kimberly Meenen – ACES Asst. Dean
Sharon Nickols – ACES Assoc. Dean, Illinois Extension Director
Harry Clore – Illinois Extension, Associate Director of Budget & Finance
Kevin McSweeney – Arboretum Director
Matthew Tomaszewski – Executive Assoc. Provost for Capital Planning
Douglas Wolters – ACES Research – Director of Operations, Facilities Planning and Maintenance
Allen Parrish, Director, Crop Science Research Centers

UIUC Management and Oversight
Brent Lewis – Project PM, Campus Landscape Architect, F+S
Craig Grant – Campus Code Compliance and Fire Safety

Planning Team
Dave Frigo – HDG, Landscape Architecture
Mike Wood – HDG
Drew Deering – MNI, Architecture
Paul Milar – MNI
Lindsey Freel - MNI
Sean Widener – Clark Dietz, Civil Engineering
Jim Miller – Clark Dietz

RE: U20028 UIUC Arboretum Master Plan

Purpose of Meeting:
Project Kick-off, define expectations, confirm program

Items Discussed:
HDG presented the project boundaries, and basemap, and asked the participants to discuss their project goals for the project and to confirm elements of the project program.

1. Kimberlee started the conversation stating that the overarching goals are to create harmony, to activate the space and connect w/ purpose to the campus and the community. Building a green (LEED ready) facility – Extension is a high priority. Synergy amongst groups is important. There needs to be places to shelter on the grounds that are separate from the new building, and places to move events in inclement weather. There needs to be places to stage events. The arboretum needs a system of accessible pathways and bike routes

to Orchard Downs and campus. FAA is working on rain garden projects (living, working teaching) that need to be incorporated, as well as the need for creative landscapes and teaching labs. The south woodland area needs a learning pavilion for NRES. The plan needs to "connect the eclectic" and elevate the profile of the Japan House. The SE corner is a portal that should be strengthened. The arboretum should be a recruitment (staff, students) asset, and integrated part of campus – Penn State, UW Madison are great examples of that.

2. Harry stated that the arboretum needs to be more of a resource for the Master Gardeners and Naturalists – a showcase for who they are and for on-site training. It also needs to serve 4H on campus and be the "pathway to UIUC for 4H." It should be a "high-tech / high-touch" resource to STEM education for both locally and statewide fieldtrips.

3. Kevin stated that there needs to be better use of human resources on the landscape, and the ability to accommodate a wide range of programming for stakeholders, arboretum staff. Current resources are:
    - Diane Anderson, full-time horticulturalist
    - Claire Viall, full-time gardener
    - John Brown, retired landscape architect, on call
    - Noah Campbell, Forester, on call
    - Student Interns (4-5 during the summer)

    There are volunteers that help with the Illinois Hosta Garden, and Idea Garden. There will not be additional state funding moving forward, but there will be aggressive fundraising for an operator's endowment, and a campaign to broaden the volunteer program – which would greatly benefit from a meeting place with restrooms, storage and a small kitchen for coffee, etc.

4. Doug mentioned he is on the project to facilitate the process and eventual implementation of the master plan.

5. Allen stated there are three farm staff at the southern half of the site. There are current turf and native grass (and some legacy) research projects underway, but those could be moved elsewhere. Allen will mark up a map to show what research is going on where, and by whom.

6. The Grounds and Maintenance facility on the south half should stay for now, but it could be relocated, potentially. They currently do not have running water, break room or bathrooms there.

7. It would be good to have conversations with the Pollinatarium.

8. Brent stated he has funding for an 8' wide bike path at Hazel wood and is looking into making that intersection a 3-way, closing down the east leg of Hazelwood – he will send plans to the design team. F+S is also having conversations, looking into investing into the Grounds and Maintenance facility. He noted that the buildings east of Lincoln are lacking in utility services. New building / site should take advantage of geothermal and solar, green

technologies. Large (tall) wind turbines where not supported by Urbana currently, but smaller wind turbines could have potential. Donna was not able to attend the call, but Brent mentioned that she would be most interested in "how the building is put together."

9. Craig's concerns relate to the need for accessible (ADA) walks and trails, public transportation access points, and for fire dept./emergency access routes.

MNI presented their 9-square process for developing the building, and presented a series of precedent images of similar facilities, generating the following discussion:

10. The current building SF is +/- 31,000 SF, housing 6 programs along with common spaces. ACES and NRES should be separate.

11. At first glance, most of the 9 options are too close to Japan House and its future addition. MNI noted these were just placeholders for future design work.

12. Additional spaces requested for classrooms and meeting spaces for:
    - Arboretum staff
    - Public engagement crews from campus
    - Meetings (National Master Gardeners, e.g. 50-100 people)
    - I-Flex space (50 people)
    - NO wedding venue/ hospitality associated with the new facility, but a separate pavilion is OK.

13. Green roof? Doug was not in favor of large green roofs. Brent added that small, accessible green roofs for educational purposed (tray vs. intensive, etc.) would fit the mission of the arboretum.

14. North half, near the Idea Garden, there should be a modest pavilion, with restrooms, a small kitchen (fridge, coffee), but no catering kitchen. The restrooms could also serve as tornado shelters (FEMA recommends ICF structures), none exist in the area. It should have a sheltered outside component for visitors and to host programs. There should also be a shelter space / stage for outdoor weddings.

15. The main new building should be a 'Connection Center," not a Community Center. Modern and green.

16. Parking should be green as well, not just a bunch of lots, but following the new recommendation Brent has worked on. Vet Med students are currently using the current parking at Japan House. Parking for the Arboretum must remain free for the public, how can we accomplish that and keep students not using the arboretum out? Kimberlee mentioned rooftop parking as a way to decrease its overall site footprint, but it was deemed cost prohibitive by the group. Some of the parking could, however, be covered with photovoltaic panels. In general, the parking should be green, aesthetically pleasing, inviting and complement the building(s) – a departure from the 1950-60's concept of parking on campus.

17. What about placing the building at the corner of Windsor and Race? It would be a gateway building and have good connection with Clark-Lindsey Village.

18. Kevin would like to see some sort of Conservatory / Atrium space for year-round appeal, indoor plantings, etc.

19. The costs for the building related to the donor are $300/SF. The donor would like the building to be green and cost efficient. The donor likes the facilities at the Morton Arboretum and Penn State.

20. The precedent images with multiple buildings were well received. The building will need to be LEED Silver-ready and meet the ICAP – Illinois Climate Action Plan. Brent to send a copy to the team. Lindsey mentioned that LEED V4 has some tougher hoops to jump through.

Next Steps:

1. Site visits? Currently the campus is open, but travel is discouraged – stay tuned. In the meantime, there will be follow up teleconference to discuss the programs for the Hartley Gardens, Extension, and other stakeholders.
2. A possible charrette with the group, including the donor? At least, a interview with the donor.
3.

cc: Attendees
File, HDG

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Meeting Summary

Date: May 8, 2020
Time: 8:30 AM
Location: ZOOM Video Conference
Attendees: Doug Wolters, ACES Research – Director of Operations, Facilities Planning and Maintenance
Kevin McSweeney, Arboretum Director
Diane Anderson, NRES Research and Education Specialist in Landscape Horticulture
Claire Viall, Agricultural Gardener / Arborist
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)

RE: U20026 Arboretum Master Plan

Purpose of Meeting:

Review existing site plan and conditions, and discuss the program for master plan elements.

Items Discussed:

1. Diane mentioned that there is a Collections Committee that should be consulted as part of the research. She will send the Collections policy and objectives to the team.

2. Claire is the “eyes and ears” of the site. She is there daily and a good resource to get a sense of resources available.

3. There is a preliminary pathways concept plan. Brent sent the document to Dave during the meeting. The Blue, Red and Yellow paths were created so it would be apparent where trees could be planted with the confidence that they would not need to be removed later.

4. Kevin stressed the important of both hardscape and greenscape connectivity that should be addressed in the plan, and that it is important to transition the south half of the site from environmental and esthetical perspectives.

5. It is important to salvage the trees to the south of Hazelwood. Gary Cling will be brought into the process to better understand what is there and what stories might be told.

6. John Brown also worked on the pathways system development. The group confirmed that there should be a hierarchy of paths, a minimum of 10’ and designed in such a way to facilitate maintenance and other vehicles’ turning radii. There are new paths in the renovated SE corner of the Hartley Garden that are problematic. Maintenance vehicles are small trucks, some with trailers, and mowers.

7. Lighting was discussed. The group thought that lighting should be kept to a minimum, concentrated arounds areas that host events into the evening, like the Japan House, the new building and other select areas. The balance should remain unlit, as it would make those areas an attractive nuisance, be costly, and potentially affect the plant and animal photoperiods.
8. There are some areas that are low spots that should be addressed. The group was encouraged to mark up a copy of the existing site plan to denote areas that need attention, areas that have possible plans underway to develop, any memorial trees, etc. All this would be used to create a site analysis plan to be shared with the entire team. DF to send the plan to Brent and Kevin.

9. A restroom facility / storm shelter is needed in the location south of the idea garden.

10. The trees are all in GPS and Diane is working to get the species data added to the database.

11. In general, the parking lots are full when the Arboretum is busy.

12. Are there opportunities to partner with Vet. Med. To produce and utilize Biogas or Biomass at the site?

13. It would be helpful if the arb had its own maintenance area – this could be in conjunction with the UIUC Grounds and Maintenance facility. There is some partnering to ship use mulch, clippings, compost between the two entities.

14. The group asked where the new building is to be built. Dave explained there are many possibilities being researched and pointed out a few. The group thought the southern corner of Lincoln and Windsor was a bit far to be practical

15. The large grass area in the NW corner of the site is used for fall and spring event parking by the President's House and the arboretum (when coordinated through the President's House). That area and the President's House, while technically part of the arboretum, are maintained by UIUC Grounds and Maintenance, not arboretum staff.

16. An on-site nursery would be a great addition.

17. If there is a solarium, it would be beneficial if it could house some plants over winter. The existing south greenhouse is to be torn down due to storm damage. At a minimum, replacing both greenhouses is a good start. Expanding them to include propagation / mist houses, and areas for education and plant society events would be great – basically double what is there now.

18. The Hartley Garden was discussed. It once held 1400 varieties of annuals, and trials for All American Selections and Fleuroselect, but without a Hort. Dept to conduct the trails, that use needs to be replaced with something more sustainable and 4-season. It could house shrub and perennial areas, Extension and Master

Gardener demonstration gardens, ecosystem gardens, native cultivar gardens, and other themed gardens. The corners could be themed differently, they currently are not ADA accessible. Many of the shade trees there are in poor condition, some have been removed. The SE corner has been repurposed as a therapeutic garden with ADA accessible paths. There are a lot of weddings in the center of the garden, because there is so much seasonal color there. Gary Cling should be additionally consulted for this area.

19. The Council Ring was added at the south axis of the Hartley Garden as a terminus and access point to the activity lawn further south. Event tents area placed in the lawn from time to time. A plan would help guide the placement of trees in this area to help frame it.

20. The Idea Garden is an autonomous garden by Coop. Extension. They have been a good partner and resource and this partnership show grow as they move onsite. The staff helps on occasion with tasks when needed.

21. In general, the arboretum lacks a good volunteer program. There are student and community groups, the FFA, who ask about opportunities to volunteer. Having a facility to provide basic amenities – restrooms, beverages, snacks, shelter would help foster a robust volunteer program.

22. Parking is always an issue. What ever the solution, it needs to be environmental – permeable pavers, bioswales, as a minimum. Should the two lots at the Idea and Whatley Gardens be connected? Expanded? Relocated? They could be made more efficient and safer.

23. There has been interest in establishing a Dwarf Conifer garden.

24. When discussing the south half of the site, the Nut Grove should be discussed.

25. Edibles plants might be best placed at the new building where a café might be able to use them.

26. Where does the bus stop? Where should it stop? The pathway from the Hartley Garden to Lincoln might be rethought. The Welcome garden along that path was never mean to be permanent, so it can be moved or replaced as that area is redesigned.

27. There will be a call next week to focus on the south half of the site. Jay, Claire, Diane, Noah Campbell and Iris Lee should be added to that conversation.

cc: Attendees
Drew Deering, MNI
Sean Widener, Clark Dietz
Mike Wood, HDG

HITCHCOCK DESIGN GROUP
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Meeting Summary

Date: May 11, 2020
Time: 4:00 PM
Location: ZOOM Video Conference
Attendees: Doug Wolters, ACES Research – Director of Operations, Facilities Planning and Maintenance
Kevin McSweeney, Arboretum Director
Shelly Nickols-Richardson, Assoc. Dean, Dir. of Extension
Harry Clore, Associate Director of Budget & Finance. Illinois Extension
Erin Harper, Extension Educator – Local Food Systems and Small Farms
Ryan Pankau, Extension Educator Unit 13- Horticulture
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)
Mike Wood, HDG

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To introduce the project to additional Extension Staff, review the current Idea Garden and discuss elements that should be considered in the master plan

Items Discussed:

1. Brent introduced the project to the group and introductions were made.
2. Shelly spoke to the broad scope of the master plan – it's all about extension outreach and public engagement. For the new building, they are looking for the ability to provide demonstration areas, a demonstration kitchen, indoor/outdoor space and how the gardens might interface with the building.
3. The Idea Garden is run by the Master Gardeners and is stable now. There are a variety of perennials there that are growing, and they are looking to expand that with native perennials in partnership with the Master Naturalists.
4. Erin works with the Dept. of ACES with the curriculum and clubs, scheduling work days and maintenance, food production and State 4H. She would like to see more food production and demonstration areas in the plan, A high tunnel house w/ robots, typically 25' x 100' min., as part of a large 1 acre, (min.) to 5-acre area. Having wash and packing areas near a cooler would be beneficial.
   Erin/Ryan/Diane to mark up a plan with wish list items, their preferred locations and relationships and sizes and sent to Brent.
5. In general, the Idea Garden is in a good location, condensed and fenced in, it works well with the Cross-Country events and people with small kids (has a children's garden component).
6. There is currently a strategic plan, Diane/Ryan to send to Brent. Expansion is not a goal for now, need resources first, then maybe some small improvements. Kevin mentioned that expansion for the Idea Garden could also occur in the Hartley Garden. Could Extension have a bed(s) in the Hartley? If expansion wanted within the garden, the Children's Garden could be relocated, or a whole additional square

of the garden could be replicated directly connected to the existing garden to keep the geometry intact.

7. There is a need for parking and walks, the two lots are not connected, and there is no ADA access.
8. The area is hard to get to from campus for classes – crop sciences takes two classes there. Others also use the arboretum. It is 10 minutes travel time for ACES classes which leaves a 20-30-minute lab period.
9. Master Gardeners teach classes there regularly, also docent volunteers there during busy periods for a few hours each. There are also virtual classes and pollinator classes.
10. Parking and restrooms would be great, along with a pavilion work workshops and demonstrations.
11. Paths need to link to campus and to the rest of the arboretum.
12. Sustainability and native areas might expand but need to expand pool of volunteers as well. Currently, 20-30 volunteers.
13. Kevin mentioned that volunteers are at different levels. The Master Gardeners are the elite level, then others who need guidance and direction – so there needs to be a space to do that – for Fraternity and other work days, etc. A volunteer coordinator would be a great addition, but who would be able to fund that? F+S, FFA? They could also coordination the Krannert and Japan House volunteers. We are all competing for the same resources. It could be just a note in the master plan for the position.
14. Kevin asked Erin if there is service-learning or extra credit for working on the site. He responded that it is different in every department, it could be an internship or field class for credit for wetland delineation or trees, etc. The student Farm has paying internships, but others are not paid.
15. The Idea garden is getting solar panels on the shed roof connecting to the grid, with no battery storage.
16. There are a few bike racks (4-5) and Veo bike sharing.
17. Tabitha, Erin, Ryan, bring natives to the Hartley, they would be maintained by both the Master Gardeners and Master Naturalists.
18. Birding Groups are not a current organization active at the arboretum, but there are birdwatchers who use the arboretum. Might they be a new group of volunteers?
19. Having cohesive signage would help. Online plans? Use citizen science (QR, iNaturalist, GPS or other Apps) to help educate, but would need signage to announce. Kevin mentioned that a computer science class had an app about 90% completed in the past. Could the new UIUC app, Rokwire, be connected? They (Rokwire) are currently putting up poles around campus to gather data. The program is just starting now, but goals appears to be very aspirational.

cc: Attendees
Drew Deering, MNI
File, HDG

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Meeting Summary

Date: May 11, 2020
Time: 11:00 AM
Location: ZOOM Video Conference
Attendees: Lelsey S. Deem, Pollinatarium Coordinator
Doug Wolters, ACES Research – Director of Operations, Facilities Planning and Maintenance
Kevin McSweeney, Arboretum Director
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)
Mike Wood, HDG

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To introduce the Master Plan team to the Pollinatarium Staff and review the existing conditions and master plan program elements possible for the Pollinatarium.

Items Discussed:

1. Brent introduced the project to Lesley and the team introduced themselves.
2. Lesley stated that the mission of the Pollinatarium is education and outreach, not research, although they do facilitate the research of others – flight studies in the hoop house for example.
3. They host events. Typically. they would be hosting a week-long 4H Beekeepers session in June, and in July, Family Academies Programing. The also host additional events, class and programs with 4H, Parkland and alumni.
4. Lesley is on-site and has noticed an increase is visitors during the pandemic S-I-P period, walkers, joggers, bikers, dog-walkers, etc.
5. The group agreed that the Pollinatarium, while not an official part of the Arboretum would be a natural addition, integrating well with the arboretum and its community-based mission. The relocation of Extension staff to the Arboretum will also make that relationship stronger. Lesley would welcome stronger connections, both physical and programmatic.
6. There is currently no official boundary of the Pollinatarium site, the whole area is UIUC. In general, it is defined by the roadway to the north and east, the west end of the double row of trees (where we keep our beehives) to the west, and roughly 15’ or so into the woods to the south. The Pollinatarium reports to Dr. May Berenbaum. The site was previously under the Illinois Natural History Survey.
7. The tree line to the west where the beehives are has the understory planted with wildflowers and mown access paths to the hives.
8. Recently, a new shed as appeared in the south of the site. Kevin notes that the old shed adjacent, may or may not be kept as storage.
9. Jamie Ellis, Natural Areas Coordinator, burns the prairie when conditions and permit status permits. There are mown access paths adjacent and through the prairie.

10. What would be beneficial for the Pollinatarium over the next 10 years?
    a. An outdoor pavilion / classroom, a grant was started previously. This would be for both shelter and outdoor learning. The original vision had an area enclosed for storage, and a white board area. Another possible location might be just west of the west tree line.
    b. Currently the building comfortably holds 25 students. When a full bus arrives, typically half are brought into the building and half are shown around the grounds. Kevin mentioned the need for a similar pavilion in the south woods, could one be shared?
    c. Some recycled tables for outside both pre-school and elementary (1-5 grade) groups, some off the current tables are not durable enough.
    d. Some adult daycare groups also visit.
    e. Parkland (Environmental Biology) and UIUC classes also use the facility
    f. Grad Students and Master Gardeners help with programs in the fall.
    g. More parking that would still allow bus drop off and turn around. Could it be east of the east road? It is a wet area of farmland where crops often fail. Maybe a combination parking lot / rain garden?
    h. The building has one bathroom, more (even composting/solar) restrooms would be beneficial. Are composting toilets allowed on campus?
    i. There is a need for more exterior signage
    j. More bike racks would be beneficial.
    k. Help with site maintenance would be great.
    l. The entry road from the south used to be maintained by the campus, but no longer. It could be crowned with side drainage to reduce potholes.
11. When asked if the Pollinatarium should be relocated to the new main building to be building to be built for Extension, Lesley said there would be pros and cons. People like the pastoral location now and the connection to the woods, prairie, etc. It is quiet and changes with the seasons. However, placing it closer to Extension and their education and demonstration facilities would be helpful for access, and outreach and education programs.
12. Nicole Gamble (Students for Environmental Concerns, SECS) manages the meadow/prairie northeast of the Pollinatarium.
13. Brent noted that the Student Sustainable Farm is staying south of Windsor Road.
14. There are some evening events, for Sierra Club, Master Gardener/Naturalists that have 40+/- people indoor.
15. There are WILL / Head Start Programs that offer bi-lingual programming to students and an event for families.

cc: Attendees
Drew Deering, MNI
Sean Widener, Clark Dietz
File, HDG

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Meeting Summary

Date: May 12, 2020
Time: 8:30 AM
Location: ZOOM Video Conference
Attendees: Kevin McSweeney, Arboretum Director
Adam Bleakney, UIUC Wheelchair Track and Road Racing Coach
Kim Collins, Interim Director Disability Resources and Education Services
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)
Mike Wood, HDG

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To introduce the master plan project, review the current pathways and accessibility and discuss elements that should be considered in the master plan

Items Discussed:

1. Brent introduced the project to the group and introductions were made.
2. Kim sees the arboretum as an amenity to promote health and wellness, a place for physical activity and to engage people.
3. Kevin mentioned that he was pleased to have this meeting and that there are many opportunities to increase health and wellness opportunities and improve accessibility at the arboretum.
4. Adam was just there with his family and noted there is a lot of lawn only access between the Hartley Garden and Japan House. Need to create pathways and access for physically challenged visitors, and for visually impaired visitors as well.
5. Kevin, Jeanette, Diane and Adam previously discussed the potential for a fitness course / fitness stations, providing access for a wide range of users - visually impaired, PTSD and students. There is an interesting opportunity with the engineering department to design our own modality and equipment with students – make it multi- functional/universal design for all.
6. Kevin mentioned the great response to the multi-height drinking fountain (bubbler) that accommodates everyone from student, recumbent bike riders and visitors with pets. There should be more across the site.
7. The current redesign at the SE corner of the Hartley is an accessibility garden that should be further developed.
8. Kim mentioned having tactile, scented, and other types of plants that would provide a heightened user experience for blind and other visitors.
9. Pathways should consider the types of users. For example, power chairs typically need a slightly wider path to maneuver. Also consider those with service animals.
10. Kim stated that the arb should be a welcoming, inclusive, and an anchoring environment for PTSD visitors, offering a sense of peace. Some like wide open spaces, while others like a bit of enclosure and quiet to feel at ease.
11. Need to provide better access for senior adults.

12. It can be a challenge to get to the arboretum, provide perimeter walks along Lincoln and elsewhere, access walks from parking lots, bike connections.
13. Kevin stated that the access at Hartley is not optimal now but will be improved. He asked Adam what he thought of crushed stone walks and manual chairs. Does grit get on your hands an become an issue. Adam responded that it can be an issue. If the stone is not compacted, front tires can dig in. Compacted soil, when not a muddy mess, is actually preferred to loose gravel for wheelchair use. All paths at the Hartley Gardens are compacted decomposed granite, and soil / mulch contamination makes compaction maintenance difficult. Brent to see if the original plans for the garden are available to better understand the cross section. Dave suggested permeable pavers over top of the gravel (with underdrains if needed) as a possible solution to the accessibility issues that would be explored.
14. Are there opportunities for positive challenges for those looking for a training opportunity or physical challenge? Adam said a path up the hill by the president's House might fulfill that need.
15. Kevin suggested that the arboretum could feature a collection of experimental pathways and exercise stations, developed by various UIUC departments, designed to educate and be evaluated by visitors.
16. Only some of the paths are maintained in the winter, maybe a loop could be maintained for access, but some areas left unshovelled, unsalted. What about snow-melt systems from renewable or waste energy?

cc: Attendees
Craig Grant – Campus Code Compliance and Fire Safety
Sean Widener, Clark Dietz
Drew Deering, MNI
file, HDG

Meeting Summary

Date: May 13, 2020
Time: 11:00 AM
Location: ZOOM Video Conference
Attendees: Doug Wolters, ACES Research – Director of Operations, Facilities Planning and Maintenance
Kevin McSweeney, Arboretum Director
Diane Anderson, UIUC Arboretum, Research & Education Specialist in Landscape Horticulture
Claire Viall – UIUC Arboretum, NRES Gardener / Arborists
Gary Cling, UIUC ACES Crop Sciences Assoc. Professor
Noah Campbell – NRES Research Specialist
Iris Lee, NRES, Ecology and Restoration
Ryan Welch, UIUC Grounds
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)
Mike Wood, HDG

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To introduce the project to stakeholders on the southern half of the site, review the current conditions, research and operations, and discuss elements that should be considered in the master plan

Items Discussed:

1. Brent introduced the project to the group and introductions were made.
2. The group asked if there would be public restroom at the new building that would be available when the building is closed for Arboretum visitors / staff. Yes, there will be both internal and external restrooms.
3. The north block of the south half of the site has many current and past uses. The "Nut Grove' at the top was used for tree nut research by Joe McDaniel. The trees area inventoried, but they are hybrids and there are no notes on specific parentage. The area has been cleaned up and is occasionally mowed. There is new interest in the trees as permaculture is now gaining interest as a sustainable way to produce crops. The residents of Orchard Downs and from elsewhere harvest the nuts in the fall – not always in a proper manner. Weddings are hosted in two of the open areas in the grove (+/- 200 chairs set up). Forrest Keeling Nursery has been there to gather nuts to propagate. Could they be a partner, managing grove for grafting stock and other propagation? There are no current research projects in the grove now, but it remains a unique resource.
4. There is a soil pit in the grove that represents the state soil – Drummer silty clay loam. Need access (John Brown) to that for visitors and classes (4H, FFA and HS).
5. At Lincoln Ave., there is a plot that was plant collection / Dave Williams. It is a variety of overgrown hydrangeas, etc., they are not ID'd. It is a weed patch.

6. Brent stated the ICAP plan called for 50 acres of permaculture on campus. Can this be preserved and counted towards that? There is currently 30 acres at the Sustainable Farms, but more is needed. As a non-sequitur, Brent mentioned getting a campus goat herd/ Barbados Sheep to help with clearing invasive plants here and at the solar farms, etc., but who would manage the herd…
7. Hazelwood was slated to become a multi-purpose path this year, but funding was taken in the pandemic. It falls under the transportation department of campus.
8. Diane mentioned the hill. It is the highest portion of the site, but also presents sightline issues for those travelling north on Lincoln as they approach Hazelwood. The trees on the hill are closely planted and have been thinned. They were part of Dave Williams tree cultivar evaluations. They are not great trees, but some are worth keeping. There are two hedge rows of White Pine at the corner. Claire has worked on the area in the past but stopped to concentrate on other areas of the arboretum.
9. Dr. Kim Lee has some bioenergy research plots in the area.
10. The plots further south are old USDA Plant Selection plots, part of Gary's previous NC7 research. They are trees and shrubs, all are identified. Kevin needs to write to Crop Sciences to have these old research lots officially transferred to the Arboretum.
11. Brent mentioned a previous effort to build a 4-H facility on the hill, Doug stated that has not been a priority on the last 5 years.
12. Ryan described the current Grounds Facility. There is a plot of trees, mainly Ash (dead and dying) east of the building. The site extends to turf research to the north, east to the ash trees, south to the woods and west to Lincoln. They stockpile soil to the southeast, leaf compost to the west. There is also a cleanout area to the west for storm sewer cleanout water. The tree nursery along Lincoln is no longer being harvested and is growing into somewhat of a buffer for the facility. It contains some oaks, beech, Black Gum, of varying quality. None are officially identified.
13. North of the building are a staging lath shade structure and tree staging.
14. Ryan stated there are no alternate plans to relocate Grounds, but they are open to the opportunity. There was not alternate plan on the latest campus Master Plan. They were shown relocated to First and Windsor in the '07 Master Plan update.
15. Staff stats their day at the Grounds facility. There is no running water in the building, no rest rooms. There is potable water outside for watering plants. If there were restrooms built, they should not be shared with the public.
16. Dave Barnes (?) started a project to bring water to the building in 2020, but the project was stopped, and the funds returned.
17. Ryan stated there are pros and cons to the current location:
    Pros:
    1. It is on the edge of campus, so it can be a bit unsightly. It still needs to be screened from Lincoln Ave.
    2. It is 10 acres in size, rare on campus.

    Cons:
    1. It is far from University Ave. and elsewhere, in terms of travel time.
    2. No utilities.
    3. Area is not paved, can be a muddy mess at times.

    It could be screened better and made to work.

18. Dave asked if a shared maintenance facility for both the campus and arboretum might work. They do help each other out from time to time. An area east of the building might work. A nursery area would be good, there is 2' of topsoil there.
19. At the South Woodland (SAW?), interns are doing summer work to remove invasive plants by spraying and cutting. The area was originally research plots, a tree plantation, part of the Natural History Survey.
20. The forester would like to do some selective logging to create savanna areas. Could the lumber be used on site?
21. The goal of all this work is to increase quality habitat and species diversity. The area is our teaching laboratory. Area needs a pavilion for restrooms (composting?) and for shelter and teaching. Kevin to send teaching curriculum for area to help inform design.
22. There are 4-5 hydrants in this area, and an overhead filler.
23. The area contains to additional soil pits with examples other that the state soil in the nut grove.
24. Iris is working with plant ecologist to develop a list of plants to introduce into the area.
25. The area north of the Pollinatarium is another old Dave Williams nursery plot. The material is too large to move. Some nice Bald Cypress there.
26. The area enclosed by the arborvitae hedges belongs to Crop Sciences. The hedges created a more humid area that the turf breeders and plant pathologists (Hank Wilkinson) were using to evaluate disease resistance in turf.

cc: Attendees
Drew Deering, MNI
Sean Widener, Clark Dietz
File, HDG

HITCHCOCK DESIGN GROUP
creating better places

Meeting Summary

Date: May 14, 2020
Time: 9:00 AM
Location: ZOOM Video Conference
Attendees:
Kimberlee Kidwell – ACES (College of Agricultural, Consumer and Environmental Sciences) Dean
Matthew Tomaszewski – Executive Assoc. Provost for Capital Planning
Paul Milar, Moody Nolan, Inc. (MNI)
Drew Deering, MNI
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To introduce the project team to donor, review the current conditions, confirm the building program, and discuss elements and preferences that should be considered in the new building and site design

Items Discussed:

1. Brent introduced the project to the group and introductions were made.
2. Due to a scheduling mishap, the donor was not able to be on the call. The balance of the attendants thought it valuable to continue the call as a work session, and to coordinate the content for when there is a meeting with the donor.
3. Kim stated that the Extension Building is of the most interest to the donor. Her main interests are community engagement and support, public service, food &nutrition, and well-being. They might donate more resources to the project if it sparked their interest and the solutions impressed them. Currently, the gift is somewhere around $50MM.
4. Kim had a great discussion with the donor, they are excited that the project will happen in their lifetime. They discussed sustainability, connections and spaces.
5. Paul reviewed their PowerPoint presentation, starting with types of sustainability programs, noting LEED and COTE as the most applicable. Kim noted the sustainability portion of the presentation is important to the don. It is a place where Extension, Idea Garden, Pollinatarium, volunteers (Red Bison, others) share resources. or, keep it. The building should “interact with people, nature and learning.” She called it, “the heart center for Extension for the campus and community. You enter, engage, share and learn.” The facility supports the entire state, not just the campus. It should be a leading edge of how to do things going forward…
6. Matthew noted to emphasize engagement (learning, inspiration, and discovery. Include the building ties to the arboretum at a high level (permaculture, Pollinatarium, edibles, Japan House), it is ALL a resource to the region.
7. The topics of food availability, food-scaping, (rooftop accessible and vertical) gardens (especially in urban areas/ food deserts), food resiliency and nimbleness,

food and nutrition were discussed – need to show all. “Empower people to be more sustainable, resourceful and self-sufficient.”

8. Fitness and Accessibility. For volunteers? The facility should help elevate the volunteer programs.
9. How would the COVID-19 crisis play into the building design? A balance of spaces (opportunities to collaborate and distance), scheduled use, better teleconferencing – makes people want to be there, and they feel safe when they are.
10. MNI presented options with overhanging roofs, creating shelter/ shade and indoor/outdoor spaces. The outdoor spaces should lend to what is going on inside.
11. Dave noted the sites topography to the south, and the need to keep the nut grove to the north. Drew mentioned that parking would still go between the new building and the Japan House, but location would to be strategic/ surgical. Any removed parking has a $28K price tag to UIUC parking. Could any trees taken down be reused in the building and site? Brent has resources for milling and UIUC staff builders have excellent skills (recreate historic pieces, etc.).
12. Water harvesting and showing a water cycle of harvesting collecting, storing, cleaning and reuse would be very education. Green technology as a teaching tool.
13. Indoor/ outdoor spaces might give visitors a better sense of healthiness with social distancing, air exchange.
14. Brent noted the UM Pollinatarium where there are houses for solitary bees built into the facades. Also using gabions to create bioswales.
15. The group liked the potential reuse of the Hort Research Field Lab for things that should be close, but not too close, also keeps legacy.
16. There will likely be three pavilions (north by Idea Garden, just north of this building, and on the south third in/near the woodland), providing restrooms, storm shelter, storage, and covered area for staging/teaching.
17. Need to have a 4-H conversation with Shelly Nickols.

i

cc: Attendees
Mike Wood, HDG
Sean Widener, Clark Dietz
File, HDG

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Meeting Summary

Date: May 14, 2020
Time: 3:00 PM
Location: ZOOM Video Conference
Attendees:
Jennifer Gunji Ballsrud, Director, Japan House
Greg Anderson, FAA, Director of Facilities
Doug Wolters, ACES Research – Director of Operations, Facilities Planning and Maintenance
Kevin McSweeney, Arboretum Director
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To introduce the project to stakeholders of Japan House, review the current conditions, research and operations, and discuss elements that should be considered in the master plan

Items Discussed:

1. Brent introduced the project to the group and introductions were made.
2. Jennifer wanted to know if the new building for Extension would be open to the public. Japan House (JH) gets a lot of requests to use its restrooms, which are not open to the general public. Kevin mentioned that drinking fountains would also be a good thing to have at the new building.
3. 4 staff members of JH currently have permit parking in the lot south of the building.
4. Brent noted that Dean Kidwell has asked that there be free parking for the public at the new building. How that will be accomplished is TBD. Currently the majority of the parking at the lot to the south is for Vet Med during the school day. All parking matters default to the Parking Department. The master plan states there will be no more small parking lots, but the remoteness of the new facility will allow it to have a lot – designed to the new standards for sustainability and aesthetics.
5. Doug asked what the status of the JH annex was. Greg responded that the funding has been approved and the project will be in architect selection shortly, once the RFQ is completed.
6. Students take all the parking meters during classes.
7. Volunteers used to park on the lawn during maintenance days for 3-4 hours. Now JH pays for their parking in the lot, or on the street.
8. Jennifer noted that she has been in conversation with the Student Senate members to get a student fee that would go to maintenance at the arboretum. The students would want to have amenities like bike racks, covered study areas, wi-fi, parking areas and restrooms available if a fee was charged.
9. Jennifer asked is the new building would have classrooms, and if not, why not. It would bring people down to this end of campus. Many of the students who take classes at JH have never been to the arboretum or known it was there. Dave and

Brent explained the building will have areas to hold classes, events, tour groups, seminars, etc., but not scheduled weekly classes. She mentioned a higher number of visitors would get the MTD to come around more often, and create larger donor and volunteer bases, and fond memories for students.

10. Kevin and Jennifer noted that there is a sizable Chinese student population at UIUC. Some of these students have asked JH, “How did the JH get here? Why is there not a China House?” Perhaps there could be a Chinese garden at the new building, separated enough to not cause confusion with JH, but close enough that people could be educated on both and their design differences and nuances.
11. Back to the student fee issue, Brent to check if 5G coverage will include the arboretum. Dean Kidwell and Dean Hamilton and others are interested in student funding of structures, wi-fi, exercise course, etc. It might be best to wait on the fee until the master plan is completed. The item could go before the Student Senate in late fall 2020.
12. It is the intent to begin construction of the new Extension Building in 2021.
13. Jennifer urged the new building to be a student welcoming place. With the pandemic she has seen an uptick in attendance at the arboretum, especially during the cherry blossom time – a mix of students and community members.

i

cc: Attendees
Mike Wood, HDG
Drew Deering, MNI
Sean Widener, Clark Dietz
File, HDG

HITCHCOCK DESIGN GROUP
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Meeting Summary

Date: May 19, 2020
Time: 8:00 AM
Location: ZOOM Video Conference
Attendees:

Kimberlee Kidwell, ACES (College of Agricultural, Consumer and Environmental Sciences) Dean
Shelly Nickols, ACES Assoc. Dean, Illinois Extension Director
Kevin McSweeney, UIUC Arboretum Director
Doug Wolters, ACES Research – Director of Operations, Facilities Planning and Maintenance
Harry Clore, Illinois Extension, Associate Director of Budget & Finance
Paul Milar, Moody Nolan, Inc. (MNI)
Drew Deering, MNI
Brent Lewis, UIUC F+S, Project Manager
Dave Frigo, Hitchcock Design Group (HDG)
Mike Wood. HDG

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To review/confirm the building program and discuss the potential for shared elements and space preferences that should be considered in the new building and its site design.

Items Discussed:

1. Paul presented a PowerPoint showing general building organization prototypes, a preliminary building and site plan centered on the Hazelwood R.O.W., and some precedent images of other facilities – some had seen portions of the presentation at the Donor Meeting.
2. Paul asked for clarification on the IT component. Shelly clarified that the IT is for Extension only. It serves the entire state organization, 102 counties, 27units and 3 regions, as well as internal support for building users. It will have 25 people.
3. At present, the teams are in multiple locations, Bevier, Turner and elsewhere. The goal is to bring them together to solve problems collectively.
4. Media is to include radio production, faculty recording of lectures/YouTube sessions, and youth/student projects. It also should handle photography, video, and radio interviews.
5. Who will run the café? Harry stated that it was originally envisioned as a kitchenette for staff use, but this site is more remote than the previous location. It was to be a break room, have vending machines, microwave, fridge, but it could be more…Could it be a Food and Nutrition project (student-led)? It was noted that the Japan House will also have a café, open to the public.
6. How big is the demonstration kitchen? Final size TBD, but there will be video capabilities so larger groups can see the demonstration on screens.

7. The original vision for the building was for less than 20 private offices, the rest to be sound-proof cubes, and a tech classroom for +/- 50 people. How will this change with social distancing? Also, may need to convert offices to open space to conference room in the future. Paul stated that they are working on several items:
    - Restroom access
    - Handwashing stations
    - Modular walls & flexibility (Nana walls, garage doors)
    - Indoor / outdoor class/meeting rooms
    - Bottle filing stations in lieu of drinking fountains
8. There needs to be spaces for volunteers and volunteer spaces. Shelly stated it would be good to think about outward-facing storage spaces and access to get into processing stations and storage for small items. Kevin mentioned the same needs for restrooms, storage, meeting space and shelter in the north.
9. Kevin stated that their staff is now in the turfgrass building w/ Crop Sciences. Field staff need to be close to their equipment. Would the arboretum administrative staff be in the new building? They would need 2 offices (Kevin, Diane). Kim said yes, they should be brought into the fold, along with their budget, reporting lines and space needs (IT, etc.). She also said it may make sense to think of up to 5 Arboretum staff office in the building, for as the program grows.
10. Allen Parrish mentioned that the Turf Grass program is going away soon. Use that building for arboretum maintenance? Kevin mentioned that the Hort Lab Building and Greenhouses where they currently are gets very busy during the summer. Allen and Adam (Turf Science) need to be asked about their future. Jeremy Shafer works there as well, but Crop Science has other field sites to go to.
11. With the additions discussed, Kim mentioned staying on budget for the project. If the turf program continues, it will not be there
12. Shelly/ Harry mentioned the storage needs for the master Gardeners/ Naturalists for their use in training. It might be all over the gardens, not in one place.
13. Shelly mentioned having the ability for flexibility in the 50-75 years ahead, as programs ebb and grow – change is happening quicker.
14. Brent mentioned that there still needs to be a quick and safe pedestrian/bike path from Orchard Downs to Lincoln at the Hazelwood corridor.
15. What would the building hours be? The building proper would be typical for university buildings 6am-9pm, locked on the weekends. The external/satellite restrooms would open on the weekend during Arboretum hours.
16. The group was reminded that 4H, even though it has a nation brand, is part of Illinois Extension, and is UIUC run.
17. Dave asked how much parking should be provided. The building was originally planned for 82 staff/faculty, plus +/- 50 visitors. Any spaces at Japan House would have to be replaced as well (+/-65 spaces.) Those spaces are reserved M-F, 6am-5pm, and available to the public beyond that.
18. The design team is planning on spending the day visiting the site and asked for a good time. The first week of June makes sense, Dave to send out dates that work. It would be beneficial to meet/tour with the various faculty, staff, user groups when the design team is there.

cc: Attendees
Drew Deering, MNI
Sean Widener, Clark Dietz

Meeting Summary

Date: May 22, 2020
Time: 11:00 AM
Location: ZOOM Video Conference

Attendees: Doug Wolters, ACES Research – Director of Operations, Facilities Planning and Maintenance
Kevin McSweeney, Arboretum Director
Bruce Branham, NRES Crop Sciences Research Professor
Jeff Brawn, NRES Animal Biology Research Professor
Bob Schooley, NRES Assoc. Interim Head, Professor
Michelle Wander, NRES Professor
Carmen Ugarte, NRES Research Assistant Professor
Morgan White, F&S, Director of Sustainability
Brent Lewis, F+S, Project Manager
Drew Deering, Moody Nolan, Inc. (MNI)
Paul Milar, MNI
Dave Frigo, Hitchcock Design Group (HDG)

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To introduce the project to stakeholders on the master plan project, and discuss sustainability elements that should be considered in the master plan

Items Discussed:

1. Brent introduced the project to the group and introductions were made.
2. Kevin stated the conversation with a “laundry list’ of sustainability items to be tackled:

- Converting the Hartley Garden from annual display (costly, labor-intensive, short-term) to perennials
- Transition vehicles (golf carts/utility vehicles) and tools from gas/diesel to battery with solar generation charging stations
- Reduce the amount of high-maintenance turf.
- Work with others when there is surplus mulch – create a campus program for biomass transfers between different units
- Biogas from animal facilities?
- Provide better ways to get to the arboretum via bike and bus, in lieu of adding parking lots.

3. Bob mentioned going beyond extension with opportunities for students for field courses, field labs and fieldtrips. Will need teaching areas (pavilion) and storage for sustainable class equipment. Add research and measurements/data collection.
4. Doug asked if there would be benefit for spaces/classrooms for scheduled M-W-F at the site, or are those best at Turner with fieldtrips? In the past there were Saturday field courses, classes would take advantage of an on-site classroom.

Michelle stated that NRES 285 could do a course on site taking an agriculture to natural area transect. There have been past plans to gather data, measure water quality etc.

5. Brent mentioned that it could be used to gather data for the iCAP (Bruce Branham, ___ Diehl (?), and Wes Gerald (?) Can we get the old plan docs and see what is still applicable and use the arb as an opportunity for classes to gather and feed data in to the system for iCAP goals, Bruce and others?
6. Morgan brought up the concept of the campus as a living lab. In the past F+S has provided infrastructure to support research, teaching and outreach. Could this be the start of a “Resilient landscape strategy” for campus?
7. The latest draft of iCAP is happening now with student recommending more greenspaces for students. This is in the form of windows for views to greenspace, more trees on campus, more plants in buildings/ more indoor greenspace study areas – especially in winter – for study areas and comfort areas (treat SAD, Seasonal Affective Disorder).
8. The civil engineering department looked at an expansion project for the Pollinatarium and tying it into the Bee Campus USA program.
9. Regarding biogas, there are conversations with ACES for an anerobic digestor, but only at a new facility.
10. Bob mentioned is would be good to increase connections between people and the site via covered amphitheater for use by extension and for courses, could then also incorporate social distancing.
11. Bruce asked if there is a long-range vision. There needs to be a mission for students and public education. For ACES, food production, AAS display for vegetable winners. Local food has increased value during a crisis. This should be a 10-30-year plan going forward.
12. There was discussion of a potential fresh vegetable shortage this summer, the industry has a lot in common with the meatpacking industry – migrant workers working on close groups…
13. Brent mentioned Perennial/Poly/Permaculture. The nut grove is there, it just needs other layers added to it.
14. Carmen restated the use by NRES 285 and the arboretum’s ability to connect with Student Farm. Currently, we use their rooms or Turner for classes. The students want to spend more time outside, doing hands-on activities for polyculture, etc. Drew asked how large the classes are. Carmen mentioned that it is usually limited by transportation needs to 12-14 people max. With something closer, it could be +/- 20 students, not much more, so there is good 1:1 time. If they are working with the soil, harvesting plants, there will need to be washing stations. For ID only, then tables and benches.
15. Kevin added that there will be a pavilion n the SAW, with composting toilets, water. He liked the concept of moving from north to south, going from formal gardens, to working farm to natural areas. How might that work with the flow of materials for optimal nutrient cycling and waste management. They could all complement each other if people got out of their “silos.”
16. Morgan asked if there is a need for student input in the master plan. Brent stated it is not et up now, it would occur once preliminary plans are in the works. There could be a brainstorming session with Student Sustainability Committee, NRES (Joe Edwards) to discuss holistic sustainability. What is the best way to get a list of students? The group agreed it would be good to bring some students into the

discussions, from 3-4 representatives of the Student Sustainabilty Committee, Red Bison, etc.

17. Is Grounds moving? This is yet to be determined. They are open to it but need to see a plan – which would be off site.
18. The master plan is to be completed in October, then Phase I of the project will be identified and go right into design and construction.
19. It was decided to have another conference call in 2 weeks. Brent to invite Mattie (?), Joy (?), Joe Edwards, Nichole Gambel, Sara Gediman from various working groups and Matt/ Erin from the Sustainable Farm.

cc: Attendees
Mike Wood, HDG
Sean Widener, Clark Dietz
File, HDG

HITCHCOCK DESIGN GROUP
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Meeting Summary

Date: August 18, 2020
Time: 2:30 PM
Location: Zoom Video Conference
Attendees: Doris Christopher – Building Donor
Kimberlee Kidwell - ACES (College of Agricultural, Consumer and Environmental Sciences) Dean
Doug Wolters - ACES Research – Director of Operations, Facilities Planning and Maintenance
Kimberly Meenan - ACES Assistant Dean
Brent Lewis - Project PM, Campus Landscape Architect, F+S
Drew Deering, Moody Nolan, Inc. (MNI)
Paul Milar, MNI
Lindsey Freel, MNI
Mason Johnson, MNI
Dave Frigo, Hitchcock Design Group (HDG)
Mike Wood, HDG

RE: UIUC Extension Building Donor Preliminary Design Review

Purpose of Meeting:

To present the preliminary design concepts of the Illinois Extension Building and adjacent arboretum to the building donor for review and discussion of concepts and preferences.

Items Discussed:

After opening remarks by Brent and introductions, the design team presented the current three building concepts and two arboretum master plan concepts to the group which generated the following discussion and comments:

1. Doris asked if there are other high performing building currently on campus to the level of some of the sustainability concepts presented. Brent stated that LEED Silver is the minimum sustainability goal of the project, based on UIUC standards, and there is one building, ECE, that is approaching the Net Zero challenge.
2. Doug asked is there would be a study of lifecycle costs vs. upfront costs as the design progressed. MNI replied yes that is part of the cost model output. Brent added the campus is committed to carbon neutrality by 2050.
3. Doris was asked what sort of words or phases could start to encompass her views of what the building could be. She replied – Serene, beautiful, a space that gets you focused on serenity. She mentioned a garden in Tulsa that had both public/private areas, multi-purpose, hidden from view with a roofline that became an overhang. It created spaces that helped people and group find areas of quiet social distancing. Kim added “integrated with the campus and community, and demonstrating its purpose.” Doris added, it should be a transition from the south farm areas to the campus to the north. It should not be jarring in appearance but should be a departure from what is on the rest of campus – it should foster

mindfulness, peacefulness. It should be accessible, welcoming, a bridge and entry space, drawing people into the gardens and extension building.

4. Doris cautioned the group to prioritize, don't add everything - using a fashion analogy to say everything does not need to be added from a design vocabulary standpoint.
5. In reviewing the building concepts, Doris like the courtyard spaces, and wanted to understand the layout and functions of the buildings. Are there flex spaces? In general, she preferred building concepts 1 and 2 – they were easy to figure out, she could draw them once she was in them. Concept three was more difficult to figure out, and there are issues with the hard stop dead ends of the wings. She was not sure she could draw concept 3 once she had been in it.
6. The group noted that while the alternate location of concept two was interesting, it was too far away.
7. Kim mentioned they are starting a Junior Master Gardener program for students, and the building design needs to balance the site with the ability to know where you are going – recognize the building.
8. Doris stated that the building should be built where "it needs to go" which appears to be near Hazelwood. She is not familiar with much of the overall arboretum site.
9. The entry off the street and parking lot sequence will be critical, can the parking be moved inward (east) so it does not dominate the entry experience?
10. Doug liked the use of wood in the interior but questioned the maintenance of it in exterior uses. Might high-pressure exterior laminate wood be a solution? Georgian brick does not belong here. On the second building imagery page (65) Doris liked the image in the lower left, the upper left had an older and busier interior with so much going on, it is difficult to look outside. She like the areas of shaded seating.
11. Opening windows / walls are a plus, not only in the pandemic, but beyond.

The donor and UIUC asked is a PDF of the presentation could be sent for further review.

cc: Attendees
Kevin McSweeney, UIUC Arboretum
Kate Bulin, HDG

Meeting Summary

Date: November 12, 2020
Time: 2:00 PM
Location: ZOOM Video Conference

Attendees: Based on Zoom screen capture and chat – for brevity, titles are not included:

Drew Deering	Allen Parrish	Matt Edmonson
Brent Lewis	Dennis Bowman	Kimberly Meenen
Dave Frigo	Doug Walters	James Ellis
Bruce Branham	Eliana Brown	pslezak
Erin Harper	Eric Vetter	Robert Schooley
Ginger Boas	Gregory Anderson	Ryan Pankau
Kevin McSweeney	Harry Clore	Stacey DeLorenzo
Marcus Benoff	Michelle Wander	Mike Wood
Ted Christy	Layne Knoche	iPhone
Ximing Cai	Morgan White	12174805***
Adrian Melendez	Gary Kling	Kimberlee Kidwell

RE: U20028 Arboretum Master Plan

Purpose of Meeting:

To review the Preliminary Master Plan (50% Submittal) to a variety of community stakeholders, and discuss sustainability elements that should be considered in the master plan

Items Discussed:

Hitchcock Design Group and Moody Nolan presented the 50% Master Plan with its two site plan and three Extension Building options, which generated the following questions and comments:

1. Ximing applauded the idea of using the arboretum buildings and environment as living labs for research and education. It is consistent with the iSEE's seed funding programs on using campus as living labs. Many campus have their "walking tour of sustainability" (30-45 mins.) iSee has discussed this idea for our campus. The new arboretum can be an ideal place to set up such a tour to allow visitors to know about sustainability development at campus, as well as to support education. For examples see https://sustainability.wustl.edu/get-involved/campus-sustainability-tours/ https://sustainability.georgetown.edu/campus-sustainability-walking-tour/ https://sustainability.utexas.edu/bleed-orange-live-green-campus-tour
2. Erin likes the green roofs and would like to see examples of green roof food production to be used for teaching.

3. Ginger stated that her priorities would be accessibility for the public and built-in plans for maintenance of gardens/landscapes once built. Kimberlee responded that part of the endowment gifts they are developing are for maintenance of the arboretum.
4. Eliana stated the green roofs are great. For demonstration, they are out of reach for most of Extension's audience to do at their own homes. Will there also be ground level stormwater management – like rain gardens around the building and bioswales in the parking lot – that we can use in Extension's Rainscaping outreach programming? The design team responded that there will be a wide variety of green infrastructure on the project, including those items mentioned.
5. Marcus asked if the green roofs could be sectored by use – some for native habitats and species, some for research, some for agricultural research and education, some for community gardens ,and some for simple aesthetics and insulation of the buildings.
6. Michelle asked about the timeline for funding and the core building (16, 17). Kimberlee and Kimberly stated that tentatively they are looking at a 2021 Groundbreaking, and 2022 construction. It depends, in part, on the completion and approval of the master plan.
7. Gary asked if there has been interest by Crop Sciences or Landscape Architecture Depts. for long-term development. Kimberlee responded there is interest from Crop Sciences for sure. They are looking at a Morrow Plots expansion here, and other demonstration gardens.
8. Layne mentioned that demonstrative natural spaces are incredible teaching tools, however if they are not maintained, they can act as the opposite. Is there discussion as to how all of the spaces will be maintained? Where can that funding come from?
9. James asked who will be oversee or lead maintenance across the arboretum? It was mentioned that Extension would oversee maintenance around the new building.
10. Layne stated that the planting of demonstrative native gardens at Hartley has already begun with several hundred plants this last month. Is this something that can be expanded upon in the future with various groups of Extension volunteers?
11. Morgan asked is there are plans related to bringing more students across campus into the space, perhaps through course-related projects or assignments – mainly I the outdoor spaces? Paul mentioned that the building will have classrooms, a flex space, video classroom, and training session, along with community outreach.
12. Michelle encouraged the group to run the plan past Landscape Architecture – they have some talented folks there working on sustainability.
13. Will covered bike parking be provided? Dave responded that bike parking is part of the plan, and a portion of it as covered makes sense.
14. How much parking is being developed and where? Dave mentioned that a minimum number of spaces to handle a typical day, and some small events would be developed. There could be events with 300-400 people, other street parking, mass transit, and the parking at Vet. Med. would come into play then. Paul stated that once the building plan is completed, a parking count based on building user count would also be created.
15. Has anyone reached out to Urbana or Champaign? Yes, interviews stated that lack of parking was detriment to Arboretum use by the community. Once there, the lack of things to do, or basic amenities (restroom, etc.) were also problematic.
16. Morgan asked if written input could be provided. Brent encouraged any comments be sent to him to be compiled and forwarded to the design team.
17. Kevin asked how the plan addresses the ACES Corridor from the 2018 UIUC Master Plan. It was stated that the Extension Building is one of the two major components, especially here in the northern portion – and will serve as the southern portal to the

campus. The Feed Mill, further south is also under construction, and is the other corridor anchor in the plan.

18. How is Cross-County being address in the master plan? Dave responded that the open site with disconnected gardens is what makes it so easy to host cross-county events. In the short-term of the new plan, a revised course route will be shown, minimizing conflicts with new buildings, parking, gardens, and pathways. But in the long-term, as the plan is developed, it will be more difficult to layout the course, and an alternate site for cross-county would likely need to be selected. Perhaps the newly gifted golf course?
19. How would the plan's pathways be phased? Dave mentioned that an approach might be to connect the current gardens in the short-term – to each other, the parking areas, the new Extension Building and to campus walks/paths. The new main north-south path might then be constructed, with new areas plugged in to it was they are developed.

cc: Attendees
Sean Widener, Jim Miller, Clark Dietz
File, HDG

Meeting Summary

Date: March 31, 2021
Time: 3:00 PM
Location: ZOOM Video Conference

Attendees: Based on Zoom invitees addresses and chat comment participants – for brevity, titles are not included:

Lesley Deem	Sandra Yoo	Brent Lewis
May Berenbaum	Dennis Bowman	Kevin McSweeney
Arch. Review Comm.	Eliana Brown	Paul Milar
Joseph Kreiling	Tabitha Elder	Jennifer Gunji-Ballsrud
swat-landwater	Jim Lev	Robert Schooley
Eric Vetter	Ted Christy	Claire Viall
Stacey DeLorenzo	Mike Wilson	Diane Anderson
Ginger Boas	Julie Ritchey	Kimberlee Kidwell
Anthony Battaglia	David Chasco	Bruce Branham
Brett Stillwell	Patrick Gavin	Erin Harper
Adrian Melendez	Doug Wolters	Paul Slezak
Zachary Acton	David Bruns	Dave Frigo

RE: U20028 Arboretum Master Plan

Purpose of Meeting:
To review the Preliminary Master Plan (Pre-Final Submittal) to a variety of community stakeholders, and discuss sustainability elements that should be included in the final master plan

Items Discussed:
Hitchcock Design Group and Moody Nolan presented the Pre-Final Master Plan, which generated the following questions and comments:

1. From Douglas James Wolter: Paul, I think the roof plan needs updated to show the smaller roof garden over the east section only. Brent Lewis stated, this is the overall master plan, it could be revised to show a reduced Phase I expectation.

2. From May Berenbaum: Might it be possible to have a beehive with the rooftop garden? Brent Lewis responded, Great question May. In other conversations, we have reduced the green roof to the north end of the building only. The focus there would be more on growing foods and other plants in an apartment deck/balcony type of setting. It was agreed that without the larger planted green roof area, a beehive would probably be less desirable.

3. From Ted Christy: Do you envision this being a LEED Platinum building? Paul Milar responded: Sustainability is a main project goal. The design team is proceeding with not only LEED but several other Green Building Standards in mind. Brent Lewis added: ACES has given

their support for a sustainable building, but at this stage, I don't think we have targeted a specific LEED level.

4. From Kevin McSweeney: It appears that vehicles can travel directly from Orchard Downs to Lincoln Ave., in the vicinity of the new building via parking lot and pathways? Dave replied that there would be bollards or other means to only allow UIUC staff, event use and emergency vehicles on the pathways. Motorcycle and bike parking is also provided in each parking lot.

5. From Patrick Gavin: I appreciate the connectivity in the plan - especially having a child slowly graduating out of the stroller. Is the vision for this pathway to connect all current assets or to connect all current and planned assets? Dave replied yes, the intent is for the entire arboretum to be accessible for pedestrians.

6. From Jennifer Gunji-Ballsrud: Does the amphitheater have restrooms for the public? Is there space for performers in the building (such as a dressing room)? Dave replied that there are restrooms planned close by in the hospitality pavilion to the southeast. The backstage area of the amphitheater is undefined at this time – it would likely have at minimum small storage areas and minimum power, lighting, and sound. There is a service area for the parking of a bus/RV to serve as a green room behind the stage.

7. From Anthony Battaglia: With the picturesque development south of the north parking lot, start your serpentine walk immediately upon exiting that lot (which is also the Japan house entry procession place.) This promenade is an important element to Japan House and though it may evolve over time due to future development plans, its evolution was very purposeful, and you may want to reconnect at the existing star triangle intersection between the oak and bald cypress groves. Dave responded that the existing pathway would remain as the “Japan House Walk”, in addition to additional access point to the path to preserve the symbolic original design intent.

8. From Robert Schooley: Will all the paved paths be open to pedestrian and bicycle traffic? If so, would there be bike lanes on the wider main paths? Dave replied that the amount of bike access would need to be monitored and scaled back if there are too many conflicts with pedestrians.

9. From Stacey DeLorenzo and Paul: EV parking space(s)? Dave asked Brent how they are currently developed on campus. Brent mentioned not very well, and on a building-by-building basis and note part of the parking system. Power needs would need to be addressed as the parking lots are developed to accommodate more demand in the future. The new building would be a logical place for some at the start.

10. From Claire Viall: Is the new arboretum staff building next to grounds going to have a shop area for us to work on our equipment also? Dave replied that yes, the new building would have meeting, break and restrooms and storage and workspace for equipment.

11. From Eliana Brown: As it was once their land, can the Native American stories be told here? Perhaps engagement with Native American House to provide input would be appropriate. Dave Mentioned that there is possibility all throughout the site – it all depends on what is being told, honored/ celebrated. Brent stated he is working on getting their involvement.

12. From C Diane Anderson: It would be useful to the Arboretum staff to utilize electric vehicles for tours and such. Would you discuss in more detail that possibility and address whether we will continue to have a complete shop for storing and servicing our equipment. Dave stated that would be part of the new building and to let us know how much room you think you will need specifically. Staff thought it might be double what is shown, and will confirm.

13. From Erin Elizabeth Harper: 33) Sustainable Student Farm? Dave replied that yes there is an area dedicated to showing what is done at the larger facility and in conjunction with the Research outreach facilities to host classes.

14: From Paul Slezak: Parking would like to have measures added for limiting who parks in the Lots and being able to enforce the lots. F32 has permit holders and we would want to keep vet-med students from taking over the parking lot. The design team all stated that the intent is for portions of all lots to have spaces for arboretum visitors, and the south lot for designed visitors to the Extension Building. Not sure how things will all be regulated.

15. From Stacey DeLorenzo: For wi-fi, we are working to get more fiber installed on the east and south part of campus.

16. From Brett Stillwell: Are there provisions for jogging paths or cross-country routing in the planned improvements? Dave responded that would be the last piece of the plan explored. A meeting will be set up to review that very issue and see what can be done. A lot of it has to do with how soon the arboretum improvements will be constructed.

Follow up cross-country questions:

- does the course need to be certified – yes, but it is a loose set of definitions.
- How wide is the course? It is 15' at the narrowest – 20' preferred and there is a much larger (and wider) starting area.
- What materials can the course run on? Turf, and packed wood mulch are preferred.

17. From Stacey DeLorenzo: Can the paths be closed to the public during CC meets? Dave mentioned that seems like it could be coordinated.

19. From Bruce E Branham: What will be going into 31? That appears to be a lot of space. Dave replied that the areas came from Allen Parrish and include and expansion of the Morrow Plots research and various display areas for weeds, various outreach and research activities. Brent and others mentioned that signage and display areas along the main walk in this area would be great and help tie this area into the gardens of the north.

20. From Erin Elizabeth Harper: what is the acreage of 30, 31, 33? Dave replied we will get you the acreage of the various areas.

21. The President's house likes the idea of the walk and a direct link to the front door. Brent mentioned that it might need to be gated to arboretum visitors do not think it is open to the public. They would also like to use the parking lots in off-peak time and even the north hospitality pavilion. Brent assured it could all be arranged.

22. Would the blue light emergency phones be added? Brent mentioned that would need to be addressed by campus security, but likely.

23. David Bruns asked what the value of the master plan is. Dave stated that it is multi-faceted. In the simplest terms it is a physical plan, so that staff can continue to plant and develop gardens without fear that trees and other large items would not be in the wrong places and potential removed in the future. It is a road map, with a life of about 10-20 years, then it needs to be evaluated and updated, as the needs of the university will have changed, and specific elements will have been built. It is also useful for funding applications for grants, donor, and lastly, is meant to be inspirational to what the arboretum could and should mean to the university and its various college and alumni. Kimberlee mentioned that it is the intent to building as much of the plan as can be funded in the coming years.

24. Kevin reiterated how he like the way the master plan transitions the arboretum from the formal gardens of the north to the agrarian uses in the middle to the natural areas at the south third.

25. The next steps will be to gather any remaining comments, meet with DIA and then meet with the core group to review the comments. Then the design team will complete the master plan.

Email comments received after the Zoom call:

26. Jennifer Gunji-Ballsrud asked if there could be another maintenance shed closer to the Japan House and Hosta Garden for their volunteers. Also, there is a preliminary design for the island link by James Bier that can be coordinated with the area hardscape – she will send the plans to Brent. She also reiterated the real need for changing/restrooms and performance venues for Matsuri and the importance of the organic nature of the walk to the north lot. Lastly, there might be a need to connect the new annex more directly to the south parking lot other than the current driveway.

27. Bruce Branham wrote that there is a lot of space in the old Landscape Horticulture Research Center and would like to see if viable research components could remain in the area, in addition to the extension/outreach/ demonstration areas. He also mentioned the addition of a wash/pack facility for the Sustainable Student Farm. Erin Harper added that the wash/pack facility and demonstration area would be used by the SSF, Local Foods team and 4H for Young Ag Ed programs and for campus, summer programs, and farmer training.

cc: Attendees
Sean Widener, Jim Miller, Clark Dietz, Drew Deering, Moody Nolan
Mike Wood, HDG

HITCHCOCK DESIGN GROUP
creating better places

Meeting Summary

Date: April 21, 2021
Time: 4:00 PM
Location: ZOOM Video Conference

Attendees:
Kimberlee Kidwell, Dean of College of ACES
Kevin McSweeney, UIUC Arboretum Director
Kimberly Meenen, ACES Assistant Dean of Advancement
Doug Wolters, ACES Research Director of Operations, Facilities Planning and Maintenance
Shelly Nickols ACES Associate Dean, Illinois Extension Director
Harry Clore, Illinois Extension, Associate Director of Budget & Finance
Allen Parrish, Director, Crop Science Research Centers
Brent Lewis, UIUC Landscape Architect
Drew Deering, Moody Nolan (MNI)
Paul Milar, MNI
Dave Frigo, Hitchcock Design Group (HDG)

RE: U20028 Arboretum Master Plan Core Team review responses

Purpose of Meeting:
To review the Preliminary Master Plan (Pre-Final Submittal) comments provided by the community stakeholders, and discuss which comments that should be included in the final master plan

Items Discussed:
Hitchcock Design Group presented the Pre-Final Master Plan comments shown in black below, which generated the following questions and comments shown in green following:

1. From Douglas James Wolter: Paul, I think the roof plan needs updated to show the smaller roof garden over the east section only. Brent Lewis stated, this is the overall master plan, it could be revised to show a reduced Phase I expectation.

The renderings will be revised to show the western 2/3 of the green roof removed.

2. From May Berenbaum: Might it be possible to have a beehive with the rooftop garden? Brent Lewis responded, Great question May. In other conversations, we have reduced the green roof to the north end of the building only. The focus there would be more on growing foods and other plants in an apartment deck/balcony type of setting. It was agreed that without the larger planted green roof area, a beehive would probably be less desirable.

The group agreed that without a large green roof a beehive would not make sense at this time. Providing access to maintenance would also be a potential issue.

3. From Ted Christy: Do you envision this being a LEED Platinum building? Paul Milar responded: Sustainability is a main project goal. The design team is proceeding with not only

LEED but several other Green Building Standards in mind. Brent Lewis added: ACES has given their support for a sustainable building, but at this stage, I don't think we have targeted a specific LEED level.

LEED Silver is required, aim for LEED Gold.

4. From Kevin McSweeney: It appears that vehicles can travel directly from Orchard Downs to Lincoln Ave., in the vicinity of the new building via parking lot and pathways? Dave replied that there would be bollards or other means to only allow UIUC staff, event use and emergency vehicles on the pathways. Motorcycle and bike parking is also provided in each parking lot.

No action required.

5. From Patrick Gavin: I appreciate the connectivity in the plan - especially having a child slowly graduating out of the stroller. Is the vision for this pathway to connect all current assets or to connect all current and planned assets? Dave replied yes, the intent is for the entire arboretum to be accessible for pedestrians.

No action required.

6. From Jennifer Gunji-Ballsrud: Does the amphitheater have restrooms for the public? Is there space for performers in the building (such as a dressing room)? Dave replied that there are restrooms planned close by in the hospitality pavilion to the southeast. The backstage area of the amphitheater is undefined at this time – it would likely have at minimum small storage areas and minimum power, lighting, and sound. There is a service area for the parking of a bus/RV to serve as a green room behind the stage.

Add the requested back-of-house accommodations and restrooms to the back of the stage area.

7. From Anthony Battaglia: With the picturesque development south of the north parking lot, start your serpentine walk immediately upon exiting that lot (which is also the Japan house entry procession place.) This promenade is an important element to Japan House and though it may evolve over time due to future development plans, its evolution was very purposeful, and you may want to reconnect at the existing star triangle intersection between the oak and bald cypress groves. Dave responded that the existing pathway would remain as the “Japan House Walk”, in addition to additional access point to the path to preserve the symbolic original design intent.

Existing Japan House pathway from the parking lot to remain.

8. From Robert Schooley: Will all the paved paths be open to pedestrian and bicycle traffic? If so, would there be bike lanes on the wider main paths? Dave replied that the amount of bike access would need to be monitored and scaled back if there are too many conflicts with pedestrians.

No action required.

9. From Stacey DeLorenzo and Paul: EV parking space(s)? Dave asked Brent how they are currently developed on campus. Brent mentioned not very well, and on a building-by-building basis and note part of the parking system. Power needs would need to be addressed as the parking lots are developed to accommodate more demand in the future. The new building would be a logical place for some at the start.

EV spaces will likely be needed to attain LEED Gold. Sort out in Building SD phase.

10. From Claire Viall: Is the new arboretum staff building next to grounds going to have a shop area for us to work on our equipment also? Dave replied that yes, the new building would have meeting, break and restrooms and storage and workspace for equipment.

Spaces will be added.

11. From Eliana Brown: As it was once their land, can the Native American stories be told here? Perhaps engagement with Native American House to provide input would be appropriate. Dave Mentioned that there is possibility all throughout the site – it all depends on what is being told, honored/ celebrated. Brent stated he is working on getting their involvement.

Add appropriate language to the master plan, perhaps in the signage area of the plan text.

12. From C Diane Anderson: It would be useful to the Arboretum staff to utilize electric vehicles for tours and such. Would you discuss in more detail that possibility and address whether we will continue to have a complete shop for storing and servicing our equipment. Dave stated that would be part of the new building and to let us know how much room you think you will need specifically. Staff thought it might be double what is shown, and will confirm.

The additional space size has been confirmed and will be added to the plan.

13. From Erin Elizabeth Harper: 33) Sustainable Student Farm? Dave replied that yes there is an area dedicated to showing what is done at the larger facility and in conjunction with the Research outreach facilities to host classes.

No action required.

14: From Paul Slezak: Parking would like to have measures added for limiting who parks in the Lots and being able to enforce the lots. F32 has permit holders and we would want to keep vet-med students from taking over the parking lot. The design team all stated that the intent is for portions of all lots to have spaces for arboretum visitors, and the south lot for designed visitors to the Extension Building. Not sure how things will all be regulated.

No action required.

15. From Stacey DeLorenzo: For wi-fi, we are working to get more fiber installed on the east and south part of campus.

No action required.

16. From Brett Stillwell: Are there provisions for jogging paths or cross-country routing in the planned improvements? Dave responded that would be the last piece of the plan explored. A

meeting will be set up to review that very issue and see what can be done. A lot of it has to do with how soon the arboretum improvements will be constructed.

Follow up cross-country questions:

- does the course need to be certified – yes, but it is a loose set of definitions.
- How wide is the course? It is 15' at the narrowest – 20' preferred and there is a much larger (and wider) starting area.
- What materials can the course run on? Turf, and packed wood mulch are preferred.

A separate meeting will be held with cross country to reviews the plan and XC requirements.

17. From Stacey DeLorenzo: Can the paths be closed to the public during CC meets? Dave mentioned that seems like it could be coordinated.

No action required.

19. From Bruce E Branham: What will be going into 31? That appears to be a lot of space. Dave replied that the areas came from Allen Parrish and include and expansion of the Morrow Plots research and various display areas for weeds, various outreach and research activities. Brent and others mentioned that signage and display areas along the main walk in this area would be great and help tie this area into the gardens of the north.

No action required.

20. From Erin Elizabeth Harper: what is the acreage of 30, 31, 33? Dave replied we will get you the acreage of the various areas.

Erin and Bruce were sent the acreages of the various areas requested.

21. The President's house likes the idea of the walk and a direct link to the front door. Brent mentioned that it might need to be gated to arboretum visitors do not think it is open to the public. They would also like to use the parking lots in off-peak time and even the north hospitality pavilion. Brent assured it could all be arranged.

The walk and controlled access points for vehicles and pedestrian will be added to the plan.

22. Would the blue light emergency phones be added? Brent mentioned that would need to be addressed by campus security, but likely.

A separate meeting with Campus Security will be held.

23. David Bruns asked what the value of the master plan is. Dave stated that it is multi-faceted. In the simplest terms it is a physical plan, so that staff can continue to plant and develop gardens without fear that trees and other large items would not be in the wrong places and potential removed in the future. It is a road map, with a life of about 10-20 years, then it needs to be evaluated and updated, as the needs of the university will have changed, and specific elements will have been built. It is also useful for funding applications for grants, donor, and lastly, is meant to be inspirational to what the arboretum could and should mean to the

university and its various college and alumni. Kimberlee mentioned that it is the intent to building as much of the plan as can be funded in the coming years.

No action required.

24. Kevin reiterated how he like the way the master plan transitions the arboretum from the formal gardens of the north to the agrarian uses in the middle to the natural areas at the south third.
No action required.

25. The next steps will be to gather any remaining comments, meet with DIA and then meet with the core group to review the comments. Then the design team will complete the master plan.

Email comments received after the Zoom call:
26. Jennifer Gunji-Ballsrud asked if there could be another maintenance shed closer to the Japan House and Hosta Garden for their volunteers. Also, there is a preliminary design for the island link by James Bier that can be coordinated with the area hardscape – she will send the plans to Brent. She also reiterated the real need for changing/restrooms and performance venues for Matsuri and the importance of the organic nature of the walk to the north lot. Lastly, there might be a need to connect the new annex more directly to the south parking lot other than the current driveway.

The maintenance area should be incorporated into the Japan House addition and gardens, so they are in control of the area and everyone is using their own tools, etc. HDG still needs to get a copy of the Bier plan for the island.

27. Bruce Branham wrote that there is a lot of space in the old Landscape Horticulture Research Center and would like to see if viable research components could remain in the area, in addition to the extension/outreach/ demonstration areas. He also mentioned the addition of a wash/pack facility for the Sustainable Student Farm. Erin Harper added that the wash/pack facility and demonstration area would be used by the SSF, Local Foods team and 4H for Young Ag Ed programs and for campus, summer programs, and farmer training.

A wash/pack facility is mentioned in the plan text, no other action is required.

cc: Attendees
Sean Widener, Jim Miller, Clark Dietz, Mike Wood, HDG

Meeting Summary

Date: April 29, 2021
Time: 4:00 PM
Location: ZOOM Video Conference

Attendees:
Brett Stillwell, Senior Associate Director of Athletics, Capital Projects & Facilities
Michael Turk, Director of Track & Field and Cross Country
Sarah Haveman, Cross Country Head Coach
Gina Lee-Olukoya – UIUC Associate Dean of Students
Rachel Brewer – University High School Boys and Girls Head Cross Country Coach
Kevin McSweeney, UIUC Arboretum Director
Diane Anderson, UIUC Arboretum
Brent Lewis, UIUC Landscape Architect
Dave Frigo, Hitchcock Design Group (HDG)
Mike Wood, HDG

RE: U20028 Arboretum Master Plan and the future of Cross Country

Purpose of Meeting:
To review the Preliminary Master Plan (Pre-Final Submittal) and review the potential to reconfigure the existing cross-country routes to coexist with the expanded arboretum amenities.

Items Discussed:
Hitchcock Design Group presented the Pre-Final Master Plan, which generated the following questions and comments:

1. Kevin mentioned an aside that the Campus Police were on site doing an inspection and we may want to review the master plan with them.

2. Brent mentioned that the President's House is a huge fan of having the races at the arboretum, and the president runs in the arboretum.

3. The group agreed that expansion of the course into the South Arboretum Woods (SAW) was a great idea. It would make the course more challenging and competitive.

4. Diane mentioned that there were 15 cross-country events at the arboretum in 2019. They bring a lot of people to the arboretum.

5. Brett mentioned that having the course at the arboretum is convenient due to its location, but also a great outreach tool for the local high schools.

6. The group reviewed the areas that host the start and finish. The start area is often congested, the finish stretch seems to work much better.

7. Gina mentioned that committees on wellness often site the arboretum as a "wellness space', and in conjunction with Japan House, would like to see expansion of wellness opportunities here and all over campus. There is a lot to work with here at the arboretum for yoga, meditation, and counselling. Brent explained that the Welcome Pavilions are geared for just such use by the campus and community.

8. Michael mentioned that a lot of student access the arboretum via St, Mary's and other streets and there is a need to have safe walk routes and pedestrian crossings.

9. Brett wondered if adding mulch alongside the new pathways would provide expanded use for runners. Brent added this would be challenging to maintain, and the permanent crossing and rerouting offer the best long-term solutions.

10. Could crossings be provided at intersections of the course routes and the new pathways? Yes, as long as they accommodate spiked shoes. Brent said this could make sense if signed properly.

11. Soil, turf and track surface areas are preferred, compacted gravel is ok. Mulch is not good; it gets stuck to the spikes. Michael asked if 'old-school' use of cinders might work?

12. Should the start and finish areas be moved to make them more functional? When UIUC hosted the 2013 Big 10 meet, the start was in the open field at the NW corner. Brent mentioned that is not Arboretum land, but under the purview of the President's House, it would need t be coordinated. That area might be a good Plan B but should not be the main area of start. Parking for the meet was at Vet. Med.

13. Rachel mentioned that the HS meets are at 4PM on Tuesdays, practices are at 4:15 and they typically run there from Uni High. The UIUC meets are on Fridays and range in time from Early Morning to Late Afternoon, depending on time of year and time of season.

14. Will drinking fountains be provided? Dave explained the many new drinking fountains that are in the plan. Brent mentioned the new Extension Building will likely have exterior-accessed restrooms as well.

15. Diane mentioned that porta-potties are brought in for events and placed near the start area with an ADA-accessible one placed near the parking lot.

16. It was mentioned that Hessell Park used rubberized mulch, might that offer a solution?

17. Brent suggested that the current plan be placed on an aerial photo with the existing and potential new routes shown for review by the group.

18. Dave mentioned there are currently plans on file for a 4-,5-,6-, 8K course. Sarah mentioned these and a 10K course are need. UIUC to send the 10K course to

HDG for inclusion in the planning. Rachel mentioned that Jr. High kids run a 2-mile course, but they don't run here, and the HS kids run a 5K (3.1 miles) course.

19. Michael added: The course needs to be 4m (13' wide) minimum, the arboretum mows a 20' wide course. The first corner has to be a minimum of 200m to a preferred 400m from the start. At the start there is a required minimum of 200m before the track can taper to the 4m minimum. The start width is actually based on the number of runners, and us typically 80 to 140ft in width as currently laid out.

20. The finish line must be 4m-10m wide and the last 100m must be a straightaway.

21. Sarah mentioned that if the course is expanded into the SAW, turf and soil are preferred, gravel is second, no mulch.

22. Diane mentioned a deep shade turf grass that was developed in Europe that might be a good fit, 'Synturf' or something along those lines… She will find the product and forward.

cc: Attendees
Sean Widener, Jim Miller, Clark Dietz, Drew Deering, Paul Milar, MNI

UIUC Arboretum Master Plan

Construction Cost Opinion Summary

Date: June 30, 2021

Project Number: U20028

	Total Area Master Plan Costs	Phase I Priority Costs
Area 0 - Stormwater Master Plan Report	$30,000	
Area 0 - Survey Existing Storm Sewer System	$15,000	
Area 1 - Northeast Entry Prairie	$568,300	
Area 2 - Horticulture Field Laboratory (not included)	$0	
Area 3 - NE and NW Maintenance Areas	$807,900	
Area 4 - Hartley Selections Garden	$3,733,400	
Area 5 - Welcome Plaza	$2,743,700	$2,286,600
Area 6 - Idea Garden	$851,600	
Area 7 - Northwest Parking Lot	$4,031,300	
Area 8 - North Arboretum Walkways	$4,789,600	$1,302,300
Area 9 - Kari Walkway and Ponds/Sen Cherry Tree Allee	$1,963,100	$163,100
Area 10 - Performance Amphitheater	$2,290,400	
Area 11 - Japan House (not included)	$0	
Area 12 - Illinois Extension Community Connection Center	$51,202,500	$41,170,500
Area 13 - Woodland Hill Walk	$1,361,100	
Area 14 - ACES Outreach and Conservatory	$16,102,200	
Area 15 - ACES Research Plots	$527,300	
Area 16 - Shrub Evaluation Plots	$495,000	
Area 17 - Climate Change Evaluation Gardens	$872,700	
Area 18 - Arboretum Maintenance Complex	$4,283,300	
Area 19 - F&S Maintenance Complex	$8,819,600	
Area 20 - Pollinatarium	$967,000	
Area 21 - South Arboretum Woods	$3,931,600	
Totals	**$110,386,700**	**$ 44,922,500**

Construction Cost Opinion

Area 1 - Northeast Entry Prairie

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$9,090.24	
	general requirements	1	LS	5.0%	$15,150.40	
					Contracting and General Requirements Subtotals :	$ 27,271
033000	**Cast-in-Place Concrete**					
	wall core and footings	18	CY	$ 800	$ 14,400	
					Section Subtotal:	$ 14,400
044300	**Stone Masonry**					
	stone veneer	207	SFF	$ 60	$ 12,420	
	stone coping	69	LF	$ 120	$ 8,280	
					Section Subtotal:	$ 20,700
101400	**Signage**					
	interpretive sign	1	EA	$ 3,000	$ 3,000	
	entry sign	1	LS	$ 5,000	$ 5,000	
					Section Subtotal:	$ 8,000
129300	**Site Furnishings**					
	bench	5	EA	$ 1,500	$ 7,500	
	trash receptacle	2	EA	$ 1,000	$ 2,000	
	bike rack	5	EA	$ 800	$ 4,000	
					Section Subtotal:	$ 13,500
311000	**Site Clearing**					
	tree protection	110	LF	$ 5	$ 550	
					Section Subtotal:	$ 550
312000	**Earth Moving**					
	fine grade landscape	12,868	SY	$ 1	$ 12,868	
					Section Subtotal:	$ 12,868
321313	**Concrete Paving and Curbs**					
	concrete paving pedestrian	13,802	SF	$ 10	$ 138,020	
	concrete planter curb	22	LF	$ 30	$ 660	
					Section Subtotal:	$ 138,680

321400	**Unit Paving**							
	unit paving concrete base	960	SF	$	30	$	28,800	
						Section Subtotal:		$ 28,800
327300	**Prairie Establishment**							
	prairie seeding	11,307	SY	$	1.50	$	16,961	
	prairie plugs	1	LS	$	5,000	$	5,000	
	erosion control blanket	11,307	SY	$	1.50	$	16,961	
						Section Subtotal:		$ 38,921
329200	**Turf and Grasses**							
	seed	1,203	SY	$	1.50	$	1,805	
	erosion control blanket	1,203	SY	$	1.50	$	1,805	
						Section Subtotal:		$ 3,609
329300	**Plants**							
	shade tree	3	EA	$	600	$	1,800	
	ornamental tree	5	EA	$	350	$	1,750	
	plant bed (shrubs, perennials, groundcover)	3,226	SF	$	5	$	16,130	
	mulch	30	CY	$	50	$	1,500	
	soil conditioner	30	CY	$	60	$	1,800	
						Section Subtotal:		$ 22,980
						Construction Cost Subtotals :		$ 303,008
						Total Construction Cost Subtotals :		$ 330,279
	Other Project Costs							
	master plan design contingency	1	LS		25%	$	82,570	
	survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:		$ 84,570
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
						Subtotal:		$ -
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$	153,494	
						Subtotal:		$ 153,494
						PROJECT TOTAL:		$ 568,342

Construction Cost Opinion

Area 3 - NE and NW Maintenance Areas

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$12,940.14	
	general requirements	1	LS	5.0%	$21,566.90	
					Contracting and General Requirements Subtotals :	$ 38,820
033000	**Cast-in-Place Concrete**					
	bulk storage bins	6	EA	$ 5,000	$ 30,000	
					Section Subtotal:	$ 30,000
101400	**Signage**					
	regulatory sign	1	EA	$ 800	$ 800	
	vehicular sign	3	EA	$ 600	$ 1,800	
					Section Subtotal:	$ 2,600
107000	**Exterior Specialties**					
	maintenance building	600	SF	$ 150	$ 90,000	
					Section Subtotal:	$ 90,000
129300	**Site Furnishings**					
	trash receptacle	2	EA	$ 1,000	$ 2,000	
	picnic table	2	EA	$ 1,500	$ 3,000	
					Section Subtotal:	$ 5,000
265600	**Exterior Lighting**					
	30 foot light pole with 24" dia. base	1	EA	$ 7,000	$ 7,000	
	electrical junction box	1	EA	$ 1,000	$ 1,000	
	electrical conduit and conductors	60	LF	$ 25	$ 1,500	
	Ameren - Relocate power pole and overhead electric (electrical service)	1	LS	$ 15,000	$ 15,000	
	Ameren - Overhead electrical service to shed (electrical service)	1	LS	$ 5,000	$ 5,000	
	electrical panel (electrical service)	1	LS	$ 5,000	$ 5,000	
					Section Subtotal:	$ 34,500
311000	**Site Clearing**					
	silt fence	1,067	LF	$ 3	$ 3,201	
	temporary construction fence	1,067	LF	$ 4	$ 4,268	

	tree removal	8	EA	$	500	$	4,000	
	remove fencing and footings	168	LF	$	4	$	672	
	remove gravel paving	14,000	SF	$	2	$	28,000	
	remove wood structure	1	LS	$	1,200	$	1,200	
						Section Subtotal:		$ 41,341
312000	**Earth Moving**							
	earth excavation	670	CY	$	40	$	26,800	
	fine grade landscape	1,775	SY	$	1	$	1,775	
						Section Subtotal:		$ 28,575
321313	**Concrete Paving and Curbs**							
	concrete paving vehicular	4,512	SF	$	11	$	49,632	
						Section Subtotal:		$ 49,632
321540	**Crushed Stone Paving**							
	gravel paving	244	SY	$	60	$	14,640	
						Section Subtotal:		$ 14,640
323129	**Wood Fences and Gates**							
	wood fence (8')	718	LF	$	100	$	71,800	
	swing gate	2	EA	$	500	$	1,000	
	double swing gate	2	EA	$	1,000	$	2,000	
						Section Subtotal:		$ 74,800
329200	**Turf and Grasses**							
	seed	1,775	SY	$	1.50	$	2,663	
	erosion control blanket	1,775	SY	$	1.50	$	2,663	
						Section Subtotal:		$ 5,325
329300	**Plants**							
	plant bed (shrubs, perennials, groundcover)	7,545	SF	$	5	$	37,725	
	mulch	70	CY	$	50	$	3,500	
	soil conditioner	70	CY	$	60	$	4,200	
						Section Subtotal:		$ 45,425
334100	**Storm Utility Drainage Piping**							
	manhole	1	EA	$	3,500	$	3,500	
	storm sewer pipe	60	LF	$	100	$	6,000	
						Section Subtotal:		$ 9,500
						Construction Cost Subtotals :		$ 431,338
						Total Construction Cost Subtotals :		$ 470,158
	Other Project Costs							
	master plan design contingency	1	LS		25%	$	117,540	
	survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:		$ 119,540
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
						Subtotal:		$ -
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$	218,188	
						Subtotal:		$ 218,188
						PROJECT TOTAL:		$ 807,886

HITCHCOCK DESIGN GROUP
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Construction Cost Opinion
Area 4 - Hartley Selections Garden

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$59,935.80	
	general requirements	1	LS	5.0%	$99,893.00	
					Contracting and General Requirements Subtotals :	$ 179,807
033000	**Cast-in-Place Concrete**					
	wall core and footings	62	CY	$ 800	$ 49,600	
					Section Subtotal:	$ 49,600
044300	**Stone Masonry**					
	outcropping stone (crevice garden)	1	LS	$ 36,000	$ 36,000	
	stone veneer	359	SFF	$ 60	$ 21,540	
	stone coping	239	LF	$ 120	$ 28,680	
					Section Subtotal:	$ 86,220
055213	**Pipe and Tube Railings**					
	pipe handrail	144	LF	$ 120	$ 17,280	
					Section Subtotal:	$ 17,280
101400	**Signage**					
	interpretive sign	10	EA	$ 3,000	$ 30,000	
					Section Subtotal:	$ 30,000
107000	**Exterior Specialties**					
	shade shelter	2	EA	$ 82,750	$ 165,500	
	shade trellis (large)	1	EA	$ 119,600	$ 119,600	
	shade trellis (small)	1	EA	$ 53,600	$ 53,600	
	garden entry trellis	2	EA	$ 68,808	$ 137,616	
	wood arbor	4	EA	$ 10,000	$ 40,000	
	sculpture	1	EA	$ 10,000	$ 10,000	
	accessibility planter	2	EA	$ 4,000	$ 8,000	
	green wall	2	EA	$ 12,000	$ 24,000	
					Section Subtotal:	$ 558,316

129300	Site Furnishings							
	bench	24	EA	$	1,500	$	36,000	
	trash receptacle	4	EA	$	1,000	$	4,000	
	table and chairs	8	EA	$	7,500	$	60,000	
	power bollard	8	EA	$	1,500	$	12,000	
	planter	6	EA	$	800	$	4,800	
						Section Subtotal:		$ 116,800

311000	Site Clearing							
	tree protection	9	EA	$	400	$	3,600	
	tree removal	3	EA	$	500	$	1,500	
	clear and grub	53,285	SF	$	1	$	53,285	
	remove gravel paving	19,798	SF	$	2	$	39,596	
	remove shade structure	2	EA	$	3,500	$	7,000	
						Section Subtotal:		$ 104,981

312000	Earth Moving							
	fine grade landscape	53,285	SY	$	1	$	53,285	
						Section Subtotal:		$ 53,285

321313	Concrete Paving and Curbs							
	concrete paving pedestrian	23,648	SF	$	10	$	236,480	
	specialty finish	23,648	SF	$	2	$	47,296	
						Section Subtotal:		$ 283,776

321400	Unit Paving							
	unit paving flexible base	1,497	SF	$	25	$	37,425	
						Section Subtotal:		$ 37,425

328400	Planting Irrigation							
	backflow preventer / RPZ	1	EA	$	2,500	$	2,500	
	controller	1	EA	$	5,000	$	5,000	
	irrigation system - plant beds	53,285	SF	$	5	$	266,425	
	irrigation system - turf	10,053	SF	$	4	$	40,212	
						Section Subtotal:		$ 314,137

329200	Turf and Grasses							
	sod	1,117	SY	$	5.00	$	5,585	
						Section Subtotal:		$ 5,585

329300	Plants							
	shade tree	33	EA	$	600	$	19,800	
	plant bed (shrubs, perennials, groundcover)	53,285	SF	$	5	$	266,425	
	mulch	493	CY	$	50	$	24,650	
	soil conditioner	493	CY	$	60	$	29,580	
						Section Subtotal:		$ 340,455

							Construction Cost Subtotals :	$ 1,997,860

							Total Construction Cost Subtotals :	$ 2,177,667

	Other Project Costs							
	master plan design contingency	1	LS		25%	$	544,417	
	survey fees	1	LS	$	3,000	$	3,000	
						Subtotal:		$ 547,417

Escalation						
Escalation year 1	1	LS	0%	$	-	
Escalation year 2	1	LS	0%	$	-	
					Subtotal:	$ -
Design and Engineering						
design, permit, contingencies, oversight	1	LS	37%	$	1,008,281	
					Subtotal:	$ 1,008,281
					PROJECT TOTAL:	$ 3,733,365

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Construction Cost Opinion
Area 5 - Welcome Plaza

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$44,052.90	
	general requirements	1	LS	5.0%	$73,421.50	
					Contracting and General Requirements Subtotals :	$ 132,159
101400	**Signage**					
	interpretive sign	1	EA	$ 3,000	$ 3,000	
					Section Subtotal:	$ 3,000
107000	**Exterior Specialties**					
	pavilions	2	EA	$ 405,000	$ 810,000	
					Section Subtotal:	$ 810,000
129300	**Site Furnishings**					
	bench	14	EA	$ 1,500	$ 21,000	
	twig bench	8	EA	$ 6,000	$ 48,000	
	trash receptacle	3	EA	$ 1,000	$ 3,000	
	table and chairs	10	EA	$ 7,500	$ 75,000	
	umbrella	4	EA	$ 3,000	$ 12,000	
	power bollard	12	EA	$ 1,500	$ 18,000	
	planter	12	EA	$ 800	$ 9,600	
					Section Subtotal:	$ 186,600
221113	**Facility Water Distribution Piping**					
	domestic water service - directional bore	450	FT	$ 50	$ 22,500	
	water valve	1	EA	$ 1,000	$ 1,000	
	corporation stop	1	EA	$ 600	$ 600	
					Section Subtotal:	$ 24,100
221300	**Facility Sanitary Sewerage**					
	sanitary manhole	4	EA	$ 5,000	$ 20,000	
	sanitary sewer	850	FT	$ 90	$ 76,500	
	sewer crossing at Lincoln Ave.	1	LS	$ 20,000	$ 20,000	
					Section Subtotal:	$ 116,500
265600	**Exterior Lighting**					
	secondary electrical service	525	LF	$ 75	$ 39,375	
	Other - communication service	425	LF	$ 40	$ 17,000	

						Section Subtotal:	$	56,375
311000	**Site Clearing**							
	silt fence	518	LF	$	3	$ 1,554		
	temporary construction fence	518	LF	$	4	$ 2,072		
						Section Subtotal:	$	3,626
312000	**Earth Moving**							
	topsoil stripped and hauled off site	900	CY	$	30	$ 27,000		
	contractor furnished structural fill	900	CY	$	40	$ 36,000		
	fine grade landscape	287	SY	$	1	$ 287		
						Section Subtotal:	$	63,287
321313	**Concrete Paving and Curbs**							
	concrete paving pedestrian	2,670	SF	$	10	$ 26,700		
	concrete band	438	LF	$	25	$ 10,950		
						Section Subtotal:	$	37,650
321400	**Unit Paving**							
	unit paving concrete base	5,519	SF	$	30	$ 165,570		
						Section Subtotal:	$	165,570
329200	**Turf and Grasses**							
	seed	574	SY	$	1.50	$ 861		
	erosion control blanket	574	SY	$	1.50	$ 861		
						Section Subtotal:	$	1,722
						Construction Cost Subtotals :	$	1,468,430
						Total Construction Cost Subtotals :	$	1,600,589
	Other Project Costs							
	design contingency (%)	1	LS		25%	$ 400,147		
	survey fees	1	LS	$	2,000	$ 2,000		
						Subtotal:	$	402,147
	Escalation							
	Escalation year 1	1	LS		0%	$ -		
	Escalation year 2	1	LS		0%	$ -		
						Subtotal:	$	-
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$ 741,012		
						Subtotal:	$	741,012
						PROJECT TOTAL:	$	2,743,748

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Construction Cost Opinion
Area 6 - Idea Garden

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$13,642.47	
	general requirements	1	LS	5.0%	$22,737.45	
					Contracting and General Requirements Subtotals :	$ 40,927
101400	**Signage**					
	interpretive sign	3	EA	$ 3,000	$ 9,000	
					Section Subtotal:	$ 9,000
107000	**Exterior Specialties**					
	wood entry arbor	3	EA	$ 10,000	$ 30,000	
					Section Subtotal:	$ 30,000
129300	**Site Furnishings**					
	bench	8	EA	$ 1,500	$ 12,000	
	trash receptacle	2	EA	$ 1,000	$ 2,000	
					Section Subtotal:	$ 14,000
311000	**Site Clearing**					
	silt fence	540	LF	$ 3	$ 1,620	
	temporary construction fence	540	LF	$ 4	$ 2,160	
	tree protection	3	EA	$ 400	$ 1,200	
	tree removal	1	EA	$ 500	$ 500	
	clear and grub	3,894	SF	$ 1	$ 3,894	
	remove fencing and footings	44	LF	$ 4	$ 176	
	remove brick paving	2,587	SF	$ 2	$ 5,174	
					Section Subtotal:	$ 14,724
312000	**Earth Moving**					
	fine grade landscape	2,060	SY	$ 1	$ 2,060	
					Section Subtotal:	$ 2,060
321313	**Concrete Paving and Curbs**					
	concrete paving pedestrian	9,035	SF	$ 10	$ 90,350	
					Section Subtotal:	$ 90,350

321400	**Unit Paving**							
	unit paving flexible base	7,068	SF	$	25	$	176,700	
						Section Subtotal:		$ 176,700
323129	**Wood Fences and Gates**							
	wood fence (4')	264	LF	$	70	$	18,480	
	swing gate	1	EA	$	500	$	500	
	double swing gate	1	EA	$	1,000	$	1,000	
						Section Subtotal:		$ 19,980
328400	**Planting Irrigation**							
	backflow preventer / RPZ	1	EA	$	2,500	$	2,500	
	controller	1	EA	$	5,000	$	5,000	
	irrigation system - plant beds	7,788	SF	$	5	$	38,940	
						Section Subtotal:		$ 46,440
329200	**Turf and Grasses**							
	seed	1,195	SY	$	1.50	$	1,793	
	erosion control blanket	1,195	SY	$	1.50	$	1,793	
						Section Subtotal:		$ 3,585
329300	**Plants**							
	ornamental tree	3	EA	$	350	$	1,050	
	plant bed (shrubs, perennials, groundcover)	7,788	SF	$	5	$	38,940	
	mulch	72	CY	$	50	$	3,600	
	soil conditioner	72	CY	$	60	$	4,320	
						Section Subtotal:		$ 47,910
						Construction Cost Subtotals :		$ 454,749
						Total Construction Cost Subtotals :		$ 495,676
	Other Project Costs							
	master plan design contingency	1	LS		25%	$	123,919	
	survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:		$ 125,919
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
						Subtotal:		$ -
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$	229,990	
						Subtotal:		$ 229,990
						PROJECT TOTAL:		$ 851,586

HITCHCOCK DESIGN GROUP
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Construction Cost Opinion
Area 7 - Northwest Parking Lot

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$64,701.90	
	general requirements	1	LS	5.0%	$107,836.50	
					Contracting and General Requirements Subtotals :	$ 194,106
101400	**Signage**					
	regulatory sign	2	EA	$ 800	$ 1,600	
	interpretive sign	1	EA	$ 3,000	$ 3,000	
	vehicular sign	4	EA	$ 600	$ 2,400	
					Section Subtotal:	$ 7,000
129300	**Site Furnishings**					
	bench	2	EA	$ 1,500	$ 3,000	
	trash receptacle	2	EA	$ 1,000	$ 2,000	
	bike rack	20	EA	$ 800	$ 16,000	
					Section Subtotal:	$ 21,000
265600	**Exterior Lighting**					
	30 foot light pole with 24" dia. base	5	EA	$ 7,000	$ 35,000	
	electrical junction box	2	EA	$ 1,000	$ 2,000	
	electrical conduit and conductors	1,000	LF	$ 25	$ 25,000	
	power source connection and panel	1	LS	$ 15,000	$ 15,000	
					Section Subtotal:	$ 77,000
311000	**Site Clearing**					
	silt fence	2,010	LF	$ 3	$ 6,030	
	temporary construction fence	2,010	LF	$ 4	$ 8,040	
	tree protection	8	EA	$ 400	$ 3,200	
	tree removal	6	EA	$ 500	$ 3,000	
	clear and grub	3,996	SF	$ 1	$ 3,996	
	remove concrete paving	13,974	SF	$ 3	$ 41,922	
	remove wood arbor	1	LS	$ 2,500	$ 2,500	
					Section Subtotal:	$ 68,688
312000	**Earth Moving**					
	topsoil stripped and hauled off site	6,400	CY	$ 30	$ 192,000	
	earth excavation	1,700	CY	$ 40	$ 68,000	
	contractor furnished structural fill	800	CY	$ 40	$ 32,000	

	fine grade landscape	1,053	SY	$	1	$	1,053	
							Section Subtotal:	$ 293,053
321313	**Concrete Paving and Curbs**							
	concrete paving pedestrian	14,599	SF	$	10	$	145,990	
	concrete paving vehicular	40,746	SF	$	11	$	448,206	
	concrete curb	3,502	LF	$	30	$	105,060	
							Section Subtotal:	$ 699,256
321400	**Unit Paving**							
	permeable pavers - vehicular	28,960	SF	$	15	$	434,400	
							Section Subtotal:	$ 434,400
329200	**Turf and Grasses**							
	seed	1,006	SY	$	1.50	$	1,509	
	erosion control blanket	1,006	SY	$	1.50	$	1,509	
							Section Subtotal:	$ 3,018
329300	**Plants**							
	shade tree	37	EA	$	600	$	22,200	
	plant bed (shrubs, perennials, groundcover)	8,478	SF	$	5	$	42,390	
	mulch	78	CY	$	50	$	3,900	
	soil conditioner	78	CY	$	60	$	4,680	
	bioswale soil	1,177	CY	$	60	$	70,620	
	bioswale plugs	7,065	EA	$	5	$	35,325	
	bioswale mulch	98	CY	$	50	$	4,900	
							Section Subtotal:	$ 184,015
334100	**Storm Utility Drainage Piping**							
	manhole	6	EA	$	3,500	$	21,000	
	storm sewer pipe	670	LF	$	100	$	67,000	
	arch chamber for storm water storage	1,650	LF	$	50	$	82,500	
							Section Subtotal:	$ 170,500
334100	**Sub drainage**							
	CA-7 aggregate under permeable paving	2,500	CY	$	60	$	150,000	
	geogrid reinforcement	4,000	SY	$	8	$	32,000	
	non-woven fabric	4,200	SY	$	4	$	16,800	
							Section Subtotal:	$ 198,800
							Construction Cost Subtotals :	$ 2,156,730
							Total Construction Cost Subtotals :	$ 2,350,836
	Other Project Costs							
	master plan design contingency	1	LS		25%	$	587,709	
	survey fees	1	LS	$	4,000	$	4,000	
							Subtotal:	$ 591,709
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
							Subtotal:	$ -
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$	1,088,742	
							Subtotal:	$ 1,088,742
							PROJECT TOTAL:	$ 4,031,286

Construction Cost Opinion

Area 8 - North Arboretum Walkways

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$69,993.69	
	general requirements	1	LS	5.0%	$116,656.15	
				Contracting and General Requirements Subtotals :		$ 209,981
101400	**Signage**					
	directional sign	5	EA	$ 700	$ 3,500	
	interpretive sign	3	EA	$ 3,000	$ 9,000	
					Section Subtotal:	$ 12,500
107000	**Exterior Specialties**					
	pavilion	1,350	SF	$ 300	$ 405,000	
					Section Subtotal:	$ 405,000
129300	**Site Furnishings**					
	bench	6	EA	$ 1,500	$ 9,000	
	table and chairs	3	EA	$ 7,500	$ 22,500	
	umbrella	3	EA	$ 3,000	$ 9,000	
	bike rack	15	EA	$ 800	$ 12,000	
					Section Subtotal:	$ 52,500
221113	**Facility Water Distribution Piping**					
	domestic water service - directional bore	500	FT	$ 50	$ 25,000	
	water valve	1	EA	$ 1,000	$ 1,000	
	corporation stop	1	EA	$ 600	$ 600	
					Section Subtotal:	$ 26,600
221300	**Facility Sanitary Sewerage**					
	sanitary sewer	75	FT	$ 90	$ 6,750	
	connect existing manhole	1	LS	$ 3,000	$ 3,000	
					Section Subtotal:	$ 9,750
224700	**Drinking Fountains**					
	drinking fountain	1	EA	$ 8,000	$ 8,000	
				.	ction Subtotal:	$ 8,000
265600	**Exterior Lighting**					
	10 foot light pole with 18" dia. base	15	EA	$ 4,500	$ 67,500	

electrical junction box	2	EA	$	1,000	$	2,000		
electrical conduit and conductors	1,400	LF	$	25	$	35,000		
electrical power from Exension Building	650	LF	$	50	$	32,500		
electrical panel	1	LS	$	5,000	$	5,000		
						Section Subtotal:	$	142,000
311000 Site Clearing								
silt fence	352	LF	$	3	$	1,056		
temporary construction fence	352	LF	$	4	$	1,408		
tree protection	3,237	LF	$	5	$	16,185		
tree removal	19	EA	$	500	$	9,500		
remove gravel paving	10,000	SF	$	2	$	20,000		
						Section Subtotal:	$	48,149
312000 Earth Moving								
topsoil stripped and hauled off site	200	CY	$	30	$	6,000		
contractor furnished structural fill	200	CY	$	40	$	8,000		
fine grade landscape	10,643	SY	$	1	$	10,643		
						Section Subtotal:	$	24,643
321313 Concrete Paving and Curbs								
concrete paving pedestrian	146,593	SF	$	10	$	1,465,930		
track surfacing at cross-country course crossings (20' min. widht)	400	SY	$	25	$	10,000		
						Section Subtotal:	$	1,475,930
321400 Unit Paving								
unit paving flexible base	800	SF	$	25	$	20,000		
						Section Subtotal:	$	20,000
329200 Turf and Grasses								
seed	9,777	SY	$	1.50	$	14,666		
erosion control blanket	9,777	SY	$	1.50	$	14,666		
						Section Subtotal:	$	29,331
329300 Plants								
shade tree	53	EA	$	600	$	31,800		
plant bed (shrubs, perennials, groundcover)	7,800	SF	$	5	$	39,000		
mulch	72	CY	$	50	$	3,600		
soil conditioner	72	CY	$	60	$	4,320		
						Section Subtotal:	$	78,720
						Construction Cost Subtotals :	$	2,333,123
						Total Construction Cost Subtotals :	$	2,543,104
Other Project Costs								
master plan design contingency	1	LS		37%	$	940,949		
survey fees	1	LS	$	12,000	$	12,000		
						Subtotal:	$	952,949
Escalation								
Escalation year 1	1	LS		0%	$	-		
Escalation year 2	1	LS		0%	$	-		
						Subtotal:	$	-
Design and Engineering								
design, permit, contingencies, oversight	1	LS		37%	$	1,293,539		
						Subtotal:	$	1,293,539
						PROJECT TOTAL:	$	4,789,592

Construction Cost Opinion

Area 9 - Kari Walkway and Ponds/Sen Cherry Tree Allee

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$31,374.81	
	general requirements	1	LS	5.0%	$52,291.35	
				Contracting and General Requirements Subtotals :		$ 94,124
033000	**Cast-in-Place Concrete**					
	concrete wall at pond	185	CY	$ 800	$ 148,000	
					Section Subtotal:	$ 148,000
101400	**Signage**					
	directional sign	1	EA	$ 500	$ 500	
	interpretive sign	1	EA	$ 3,000	$ 3,000	
					Section Subtotal:	$ 3,500
107000	**Exterior Specialties**					
	wood boardwalk	1,082	SF	$ 45	$ 48,690	
					Section Subtotal:	$ 48,690
129300	**Site Furnishings**					
	bench	3	EA	$ 1,500	$ 4,500	
	trash receptacle	2	EA	$ 1,000	$ 2,000	
					Section Subtotal:	$ 6,500
311000	**Site Clearing**					
	tree protection	1,807	LF	$ 5	$ 9,035	
	tree removal	24	EA	$ 500	$ 12,000	
	clear and grub	43,830	SF	$ 1	$ 43,830	
	remove concrete paving	15,948	SF	$ 3	$ 47,844	
					Section Subtotal:	$ 112,709
312000	**Earth Moving**					
	earth excavation - lower bottom of small pond 24" for soil liner treatment and haul material to Amphitheater	1,300	CY	$ 30	$ 39,000	

earth excavation - lower bottom of large pond 6" for soil liner treatment and haul material to Amphitheater	1,500	CY	$	30	$	45,000	
earth excavation to correct perimeter bank slopes	800	SY	$	50	$	40,000	
soil liner treatment material	1	LS	$	50,000	$	50,000	
local equipment and labor for soil liner treatment construction	1	LS	$	30,000	$	30,000	
fine grade landscape		SY	$	1	$	-	
					Section Subtotal:		$ 204,000

321313	**Concrete Paving and Curbs**						
concrete paving pedestrian	36,134	SF	$	10	$	361,340	
					Section Subtotal:		$ 361,340

329200	**Turf and Grasses**						
seed	2,796	SY	$	1.50	$	4,194	
erosion control blanket	2,796	SY	$	1.50	$	4,194	
					Section Subtotal:		$ 8,388

329300	**Plants**						
shade tree	7	EA	$	600	$	4,200	
ornamental tree	5	EA	$	400	$	2,000	
plant bed (shrubs, perennials, groundcover)	5,100	SF	$	5	$	25,500	
mulch	47	CY	$	50	$	2,350	
soil conditioner	47	CY	$	60	$	2,820	
pond edge seed and blanket	4,870	SY	$	3	$	14,610	
pond edge plugs	5,844	EA	$	5	$	29,220	
					Section Subtotal:		$ 80,700

334100	**Storm Utility Drainage Piping**						
large pond outfall structure - high water level weir, orifice, and gate valve to lower water level for maintenance	1	LS	$	20,000	$	20,000	
storm manhole	1	EA	$	3,500	$	3,500	
storm sewer pipe	320	LF	$	100	$	32,000	
connection to existing manhole	1	LS	$	2,500	$	2,500	
small pond outfall structure - high water level weir, and orifice.	1	LS	$	7,000	$	7,000	
culvert to large pond	70	LF	$	100	$	7,000	
					Section Subtotal:		$ 72,000

					Construction Cost Subtotals :		$ 1,045,827

					Total Construction Cost Subtotals :		$ 1,139,951

	Other Project Costs						
master plan design contingency	1	LS		25%	$	284,988	
survey fees	1	LS	$	8,000	$	8,000	
					Subtotal:		$ 292,988

	Escalation						
Escalation year 1	1	LS		0%	$	-	
Escalation year 2	1	LS		0%	$	-	
					Subtotal:		$ -

	Design and Engineering						
design, permit, contingencies, oversight	1	LS		37%	$	530,188	
					Subtotal:		$ 530,188

					PROJECT TOTAL:		$ 1,963,127

Construction Cost Opinion
Area 10 - Performance Amphitheater

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$36,766.14	
	general requirements	1	LS	5.0%	$61,276.90	
					Contracting and General Requirements Subtotals :	$ 110,298
033000	**Cast-in-Place Concrete**					
	concrete wall (8')	130	CY	$ 800	$ 104,000	
	concrete seat walls	402	CY	$ 800	$ 321,600	
	concrete stairs	14	CY	$ 800	$ 11,200	
					Section Subtotal:	$ 436,800
044300	**Stone Masonry**					
	stone veneer	125	SFF	$ 60	$ 7,500	
					Section Subtotal:	$ 7,500
055213	**Pipe and Tube Railings**					
	pipe handrail	96	LF	$ 120	$ 11,520	
					Section Subtotal:	$ 11,520
107000	**Exterior Specialties**					
	bandshell	1	LS	$ 250,000	$ 250,000	
	bandshell building	600	SF	$ 325	$ 195,000	
					Section Subtotal:	$ 445,000
129300	**Site Furnishings**					
	bench	2	EA	$ 1,500	$ 3,000	
	trash receptacle	4	EA	$ 1,000	$ 4,000	
	bike rack	10	EA	$ 800	$ 8,000	
					Section Subtotal:	$ 15,000
265600	**Exterior Lighting**					
	electrical power from Hospitality Pavilion	350	LF	$ 50	$ 17,500	
	electrical panel	1	LS	$ 5,000	$ 5,000	
	Other - communication service	350	LF	$ 40	$ 14,000	
					Section Subtotal:	$ 36,500

311000	**Site Clearing**							
	silt fence	1,272	LF	$	3	$	3,816	
	temporary construction fence	1,272	LF	$	4	$	5,088	
	tree protection	342	LF	$	5	$	1,710	
	tree removal	5	EA	$	500	$	2,500	
						Section Subtotal:		$ 13,114
312000	**Earth Moving**							
	fine grade landscape	10,491	SY	$	1	$	10,491	
	balanced earthwork	6,958	CY	$	15	$	104,370	
						Section Subtotal:		$ 114,861
321313	**Concrete Paving and Curbs**							
	concrete paving pedestrian	9,207	SF	$	10	$	92,070	
						Section Subtotal:		$ 92,070
329200	**Turf and Grasses**							
	seed	10,491	SY	$	1.50	$	15,737	
	erosion control blanket	10,491	SY	$	1.50	$	15,737	
						Section Subtotal:		$ 31,473
329300	**Plants**							
	shade tree	14	EA	$	600	$	8,400	
	evergreen tree	21	EA	$	500	$	10,500	
	ornamental tree	7	EA	$	400	$	2,800	
						Section Subtotal:		$ 21,700
						Construction Cost Subtotals :		$ 1,225,538
						Total Construction Cost Subtotals :		$ 1,335,836
	Other Project Costs							
	master plan design contingency	1	LS		25%	$	333,959	
	survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:		$ 335,959
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
						Subtotal:		$ -
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$	618,564	
						Subtotal:		$ 618,564
						PROJECT TOTAL:		$ 2,290,360

HITCHCOCK DESIGN GROUP
creating better places

Construction Cost Opinion

Area 12 - Illinois Extension Community Connection Center

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$216,580.11	
	general requirements	1	LS	5.0%	$360,966.85	
					Contracting and General Requirements Subtotals :	$ 649,740
033000	**Cast-in-Place Concrete**					
	concrete planter seatwalls	278	CY	$ 800	$ 222,400	
	concrete stairs and seatwalls	264	CY	$ 800	$ 211,200	
	concrete seatwalls (amphitheater)	259	CY	$ 800	$ 207,200	
					Section Subtotal:	$ 640,800
044300	**Stone Masonry**					
	stone veneer	1,613	SFF	$ 60	$ 96,780	
	stone coping	1,075	LF	$ 120	$ 129,000	
					Section Subtotal:	$ 225,780
055213	**Pipe and Tube Railings**					
	pipe handrail	204	LF	$ 120	$ 24,480	
					Section Subtotal:	$ 24,480
101400	**Signage**					
	regulatory sign	2	EA	$ 800	$ 1,600	
	interpretive sign	3	EA	$ 3,000	$ 9,000	
	vehicular sign	8	EA	$ 600	$ 4,800	
					Section Subtotal:	$ 15,400
129300	**Site Furnishings**					
	bench	20	EA	$ 1,500	$ 30,000	
	twig bench	8	EA	$ 6,000	$ 48,000	
	table and chairs (small)	8	EA	$ 5,000	$ 40,000	
	table and chairs (large)	36	EA	$ 7,500	$ 270,000	
	umbrella	20	EA	$ 3,000	$ 60,000	
	trash receptacle	18	EA	$ 1,000	$ 18,000	
	power bollard	32	EA	$ 1,500	$ 48,000	
	picnic table	8	EA	$ 1,500	$ 12,000	
	bike rack	30	EA	$ 800	$ 24,000	
	planter	12	EA	$ 800	$ 9,600	
					Section Subtotal:	$ 559,600

221113	Facility Water Distribution Piping						
	existing water line removal under new building	1,200	FT	$	50	$	60,000
	relocate water main 3"	350	FT	$	80	$	28,000
	water meter vault for 3" water main	1	EA	$	6,000	$	6,000
	water main 6"	580	FT	$	110	$	63,800
	water main 12"	580	FT	$	110	$	63,800
	domestic water service 4"	120	FT	$	110	$	13,200
	fire protection service 6"	120	FT	$	110	$	13,200
	water main stop 6"	2	EA	$	6,500	$	13,000
	water main stop 12"	2	EA	$	7,500	$	15,000
	water valve 3"	1	EA	$	4,500	$	4,500
	water valve 4"	1	EA	$	5,000	$	5,000
	water valve 6"	4	EA	$	5,500	$	22,000
	water valve 12"	2	EA	$	6,000	$	12,000
	tapping valve and sleeve 6"	1	EA	$	5,000	$	5,000
	fire hydrant removal	1	EA	$	1,000	$	1,000
	fire hydrant	1	EA	$	8,000	$	8,000
						Section Subtotal:	$ 333,500

221300	Facility Sanitary Sewerage						
	sanitary manhole	3	EA	$	5,000	$	15,000
	sanitary sewer	500	FT	$	90	$	45,000
						Section Subtotal:	$ 60,000

265600	Exterior Lighting						
	30 foot light pole with 24" dia. base	9	EA	$	7,000	$	63,000
	electrical junction box	4	EA	$	1,000	$	4,000
	electrical conduit and conductors	1,500	LF	$	25	$	37,500
	power source connection and panel	1	LS	$	15,000	$	15,000
	solar pedestrian activated crosswalk warning system on Lincoln Ave.	1	LS	$	35,000	$	35,000
						Section Subtotal:	$ 154,500

	Electrical Service						
	primary service and transformer	350	LF	$	110	$	38,500
	secondary electrical service	400	LF	$	80	$	32,000
						Section Subtotal:	$ 70,500

	Natural Gas Service						
	Ameren - natural gas service	650	LF	$	60	$	39,000
						Section Subtotal:	$ 39,000

	Communication Service						
	Other - communication service	950	LF	$	40	$	38,000
						Section Subtotal:	$ 38,000

311000	Site Clearing						
	silt fence	3,859	LF	$	3	$	11,577
	temporary construction fence	3,859	LF	$	4	$	15,436
	tree protection	1,155	LF	$	5	$	5,775
	tree removal	80	EA	$	500	$	40,000
	clear and grub	37,500	SF	$	1	$	37,500
						Section Subtotal:	$ 110,288

312000	Earth Moving							
	topsoil stripped and hauled off site	16,400	CY	$	30	$	492,000	
	earth excavation	2,200	CY	$	40	$	88,000	
	contractor furnished structural fill	16,000	CY	$	40	$	640,000	
	fine grade landscape	13,815	SY	$	1	$	13,815	
						Section Subtotal:		$ 1,233,815

321313	Concrete Paving and Curbs							
	concrete paving pedestrian	79,419	SF	$	10	$	794,190	
	concrete paving vehicular	50,369	SF	$	11	$	554,059	
	concrete curb	4,726	LF	$	30	$	141,780	
						Section Subtotal:		$ 1,490,029

321400	Unit Paving							
	unit paving concrete base	3,341	SF	$	30	$	100,230	
	permeable pavers - pedestrian	5,710	SF	$	32	$	182,720	
	permeable pavers - vehicular	42,466	SF	$	15	$	636,990	
						Section Subtotal:		$ 919,940

328400	Planting Irrigation							
	backflow preventer / RPZ	1	EA	$	2,500	$	2,500	
	controller	1	EA	$	5,000	$	5,000	
	irrigation system - plant beds	33,812	SF	$	5	$	169,060	
	irrigation system - turf	44,928	SF	$	4	$	179,712	
						Section Subtotal:		$ 356,272

329200	Turf and Grasses							
	seed	5,067	SY	$	1.50	$	7,601	
	sod	4,992	SY	$	6	$	29,952	
	erosion control blanket	5,067	SY	$	1.50	$	7,601	
						Section Subtotal:		$ 45,153

329300	Plants							
	shade tree	54	EA	$	600	$	32,400	
	evergreen tree	9	EA	$	500	$	4,500	
	ornamental tree	15	EA	$	400	$	6,000	
	plant bed (shrubs, perennials, groundcover)	33,812	SF	$	5	$	169,060	
	mulch	313	CY	$	50	$	15,650	
	soil conditioner	313	CY	$	60	$	18,780	
	bioswale soil	1,050	CY	$	60	$	63,000	
	bioswale plugs	6,298	EA	$	5	$	31,490	
	bioswale mulch	88	CY	$	50	$	4,400	
						Section Subtotal:		$ 345,280

334100	Storm Utility Drainage Piping							
	manhole	6	EA	$	3,500	$	21,000	
	storm sewer pipe	1,400	LF	$	100	$	140,000	
	arch chamber for storm water storage	2,000	LF	$	50	$	100,000	
						Section Subtotal:		$ 261,000

334100	Sub drainage							
	underdrain pipe for ampitheater	1,200	LF	$	35	$	42,000	
	CA-7 aggregate under permeable paving	3,200	CY	$	60	$	192,000	
	geogrid reinforcement	5,100	SY	$	8	$	40,800	
	non-woven fabric	5,300	SY	$	4	$	21,200	
						Section Subtotal:		$ 296,000

	Construction Cost Subtotals :	$ 7,219,337

	Total Construction Cost Subtotals :	$ 7,869,077

Other Project Costs					
design contingency (%)	1	LS		25% $ 1,967,269	
survey fees	1	LS	$ 8,000	$ 8,000	
				Subtotal:	$ 1,975,269

Escalation					
Escalation year 1	1	LS		0% $ -	
Escalation year 2	1	LS		0% $ -	
				Subtotal:	$ -

Architecture					
Extension Building	1	LS	$ 19,676,372	$ 19,676,372	
design contingency	1	LS		15% $ 2,951,456	
general conditions/bond/insurance	1	LS		11% $ 2,489,061	
contractor's fees	1	LS		4% $ 879,091	
escalation to mid-point of construction	1	LS		6% $ 1,533,763	
				Section Subtotal:	$ 27,529,743

Design and Engineering					
design, permit, contingencies, oversight	1	LS		37% $ 13,828,413	
				Subtotal:	$ 13,828,413

PROJECT TOTAL: $ 51,202,503

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Construction Cost Opinion
Area 13 - Woodland Hill Walk

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$21,831.75	
	general requirements	1	LS	5.0%	$36,386.25	
					Contracting and General Requirements Subtotals :	$ 65,495
033000	**Cast-in-Place Concrete**					
	wall core and footings	18	CY	$ 800	$ 14,400	
					Section Subtotal:	$ 14,400
044300	**Stone Masonry**					
	outcropping stone stairs	80	TN	$ 600	$ 48,000	
	outcropping stone retaining walls	30	TN	$ 600	$ 18,000	
	stone veneer	108	SFF	$ 60	$ 6,480	
	stone coping	72	LF	$ 120	$ 8,640	
					Section Subtotal:	$ 81,120
055213	**Pipe and Tube Railings**					
	pipe handrail	212	LF	$ 120	$ 25,440	
					Section Subtotal:	$ 25,440
101400	**Signage**					
	interpretive sign	2	EA	$ 3,000	$ 6,000	
	directional sign	3	EA	$ 800	$ 2,400	
					Section Subtotal:	$ 8,400
129300	**Site Furnishings**					
	bench	10	EA	$ 1,500	$ 15,000	
	trash receptacle	3	EA	$ 1,000	$ 3,000	
					Section Subtotal:	$ 18,000
311000	**Site Clearing**					
	tree protection	20	EA	$ 400	$ 8,000	
	tree removal	20	EA	$ 500	$ 10,000	
	clear and grub	29,334	SF	$ 1	$ 29,334	
					Section Subtotal:	$ 47,334

312000	**Earth Moving**							
	fine grade landscape	3,259	SY	$	1	$	3,259	
						Section Subtotal:		$ 3,259
321313	**Concrete Paving and Curbs**							
	concrete paving pedestrian	14,667	SF	$	10	$	146,670	
						Section Subtotal:		$ 146,670
321400	**Unit Paving**							
	unit paving flexible base	491	SF	$	25	$	12,275	
						Section Subtotal:		$ 12,275
329200	**Turf and Grasses**							
	seed	3,259	SY	$	1.50	$	4,889	
	erosion control blanket	3,259	SY	$	1.50	$	4,889	
						Section Subtotal:		$ 9,777
329300	**Plants**							
	plant bed (shrubs, perennials, groundcover)	60,000	SF	$	5	$	300,000	
	mulch	555	CY	$	50	$	27,750	
	soil conditioner	555	CY	$	60	$	33,300	
						Section Subtotal:		$ 361,050
						Construction Cost Subtotals :		$ 727,725
						Total Construction Cost Subtotals :		$ 793,220
	Other Project Costs							
	master plan design contingency	1	LS		25%	$	198,305	
	survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:		$ 200,305
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
						Subtotal:		$ -
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$	367,604	
						Subtotal:		$ 367,604
						PROJECT TOTAL:		$ 1,361,130

Construction Cost Opinion

Area 14 - ACES Outreach and Conservatory

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$235,983.12	
	general requirements	1	LS	5.0%	$393,305.20	
					Contracting and General Requirements Subtotals :	$ 707,949
033000	**Cast-in-Place Concrete**					
	concrete planter seatwalls	94	CY	$ 800	$ 75,200	
					Section Subtotal:	$ 75,200
101400	**Signage**					
	directional sign	2	EA	$ 800	$ 1,600	
	interpretive sign	1	EA	$ 3,000	$ 3,000	
	vehicular sign	3	EA	$ 600	$ 1,800	
					Section Subtotal:	$ 6,400
107000	**Exterior Specialties**					
	research and outreach building	4,500	SF	$ 250	$ 1,125,000	
	shade structure	1,795	SF	$ 66	$ 118,470	
	conservatory	7,658	SF	$ 284	$ 2,174,872	
	greenhouse	6,403	SF	$ 265	$ 1,696,795	
	lathouse	4,368	SF	$ 66	$ 288,288	
	headhouse	1,907	SF	$ 251	$ 478,657	
					Section Subtotal:	$ 5,882,082
129300	**Site Furnishings**					
	bench	6	EA	$ 1,500	$ 9,000	
	trash receptacle	5	EA	$ 1,000	$ 5,000	
	table and chairs (small)	6	EA	$ 5,000	$ 30,000	
	table and chairs (large)	12	EA	$ 7,500	$ 90,000	
	bike rack	6	EA	$ 800	$ 4,800	
					Section Subtotal:	$ 138,800
221113	**Facility Water Distribution Piping**					
	Conservatory					
	building	300	FT	$ 50	$ 15,000	
	water main 6"	350	FT	$ 110	$ 38,500	
	water main stop 6"	2	EA	$ 6,500	$ 13,000	
	water valve 6"	2	EA	$ 5,500	$ 11,000	
	Research and Outreach Building					
	domestic water service 2"	250	FT	$ 80	$ 20,000	
	fire protection service 4"	250	FT	$ 110	$ 27,500	
	corporation stop 2"	1	EA	$ 600	$ 600	
	water valve 2"	1	EA	$ 1,000	$ 1,000	

water valve 4"	1	EA	$	5,000	$	5,000
tapping valve and sleeve 6"	1	EA	$	7,500	$	7,500
fire hydrant	1	EA	$	8,000	$	8,000
					Section Subtotal:	$ 147,100

221300	**Facility Sanitary Sewerage**							
	sanitary manhole	2	EA	$	5,000	$	10,000	
	sanitary sewer	625	FT	$	90	$	56,250	
						Section Subtotal:		$ 66,250
	Electrical Service							
	Ameren - primary service and transformer	280	LF	$	110	$	30,800	
						Section Subtotal:		$ 30,800
	Natural Gas Service							
	Ameren - natural gas service	600	LF	$	60	$	36,000	
						Section Subtotal:		$ 36,000
	Communication Service							
	Other - communication service	800	LF	$	40	$	32,000	
						Section Subtotal:		$ 32,000
311000	**Site Clearing**							
	silt fence	1,961	LF	$	3	$	5,883	
	temporary construction fence	1,961	LF	$	4	$	7,844	
	tree protection	867	EA	$	400	$	346,800	
	remove existing structures	1	LS	$	15,000	$	15,000	
	remove gravel paving	23,820	SF	$	2	$	47,640	
						Section Subtotal:		$ 423,167
312000	**Earth Moving**							
	topsoil stripped and hauled off site	1,900	CY	$	30	$	57,000	
	contractor furnished structural fill	1,900	CY	$	40	$	76,000	
	fine grade landscape	2,556	SY	$	1	$	2,556	
						Section Subtotal:		$ 135,556
321313	**Concrete Paving and Curbs**							
	concrete paving pedestrian	23,397	SF	$	10	$	233,970	
	concrete paving vehicular	27,323	SF	$	11	$	300,553	
	concrete curb	459	LF	$	30	$	13,770	
						Section Subtotal:		$ 548,293
321400	**Unit Paving**							
	permeable pavers - vehicular	3,490	SF	$	15	$	52,350	
	unit paving concrete base	3,800	SF	$	30	$	114,000	
						Section Subtotal:		$ 166,350
328400	**Planting Irrigation**							
	backflow preventer / RPZ	1	EA	$	2,500	$	2,500	
	controller	1	EA	$	5,000	$	5,000	
	irrigation system - plant beds	8,395	SF	$	5	$	41,975	
						Section Subtotal:		$ 49,475
329200	**Turf and Grasses**							
	seed	2,082	SY	$	1.50	$	3,123	
	erosion control blanket	2,082	SY	$	1.50	$	3,123	
						Section Subtotal:		$ 6,246
329300	**Plants**							
	shade tree	7	EA	$	600	$	4,200	
	plant bed (shrubs, perennials, groundcover)	9,196	SF	$	5	$	45,980	
	mulch	40	CY	$	50	$	2,000	
	soil conditioner	40	CY	$	60	$	2,400	
	bioswale soil	41	CY	$	60	$	2,460	
	bioswale plugs	249	EA	$	5	$	1,245	
	bioswale mulch	2	CY	$	50	$	100	
						Section Subtotal:		$ 58,385

334100	**Storm Utility Drainage Piping**						
	manhole	1	EA	$ 2,500	$ 2,500		
	storm sewer pipe	150	LF	$ 60	$ 9,000		
					Section Subtotal:	$	11,500
334100	**Sub drainage**						
	underdrain pipe permeable paving	300	LF	$ 35	$ 10,500		
	CA-7 aggregate under permeable paving	500	CY	$ 60	$ 30,000		
	geogrid reinforcement	1,000	SY	$ 8	$ 8,000		
	non-woven fabric	1,000	SY	$ 4	$ 4,000		
					Section Subtotal:	$	52,500
					Construction Cost Subtotals :	$	7,866,104
					Total Construction Cost Subtotals :	$	8,574,053
	Other Project Costs						
	master plan design contingency	1	LS	37%	$ 3,172,400		
	survey fees	1	LS	$ 7,000	$ 7,000		
					Subtotal:	$	3,179,400
	Escalation						
	Escalation year 1	1	LS	0%	$ -		
	Escalation year 2	1	LS	0%	$ -		
					Subtotal:	$	-
	Design and Engineering						
	design, permit, contingencies, oversight	1	LS	37%	$ 4,348,778		
					Subtotal:	$	4,348,778
					PROJECT TOTAL:	$	16,102,231

Construction Cost Opinion
Area 15 - ACES Research Plots

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$7,631.88	
	general requirements	1	LS	5.0%	$12,719.80	
				Contracting and General Requirements Subtotals :		$ 22,896
101400	**Signage**					
	directional sign	3	EA	$ 800	$ 2,400	
					Section Subtotal:	$ 2,400
107000	**Exterior Specialties**					
	arbor	1	ES	$ 7,500	$ 7,500	
					Section Subtotal:	$ 8,500
129300	**Site Furnishings**					
	bench	6	EA	$ 1,500	$ 9,000	
	trash receptacle	4	EA	$ 1,000	$ 4,000	
					Section Subtotal:	$ 13,000
224700	**Drinking Fountains**					
	drinking fountain	1	EA	$ 8,000	$ 8,000	
					Section Subtotal:	$ 8,000
312000	**Earth Moving**					
	fine grade landscape	2,994	SY	$ 1	$ 2,994	
					Section Subtotal:	$ 2,994
321313	**Concrete Paving and Curbs**					
	concrete paving pedestrian	17,502	SF	$ 10	$ 175,020	
	track surfacing at cross-country course crossings (20' min. widht)	100	SY	$ 25	$ 2,500	
					Section Subtotal:	$ 177,520
328400	**Planting Irrigation**					
	backflow preventer / RPZ	4	EA	$ 2,500	$ 10,000	
	controller	4	EA	$ 5,000	$ 20,000	
					Section Subtotal:	$ 30,000

329200	**Turf and Grasses**						
	seed	2,994	SY	$ 1.50	$ 4,491		
	erosion control blanket	2,994	SY	$ 1.50	$ 4,491		
					Section Subtotal:	$	8,982
329300	**Plants**						
	shade tree	5	EA	$ 600	$ 3,000		
					Section Subtotal:	$	3,000
					Construction Cost Subtotals :	$	254,396
					Total Construction Cost Subtotals :	$	277,292
	Other Project Costs						
	master plan design contingency	1	LS	37%	$ 102,598		
	survey fees	1	LS	$ 5,000	$ 5,000		
					Subtotal:	$	107,598
	Escalation						
	Escalation year 1	1	LS	0%	$ -		
	Escalation year 2	1	LS	0%	$ -		
					Subtotal:	$	-
	Design and Engineering						
	design, permit, contingencies, oversight	1	LS	37%	$ 142,409		
					Subtotal:	$	142,409
					PROJECT TOTAL:	$	527,299

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Construction Cost Opinion
Area 16 - Shrub Evaluation Plots

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$7,912.20	
	general requirements	1	LS	5.0%	$13,187.00	
					Contracting and General Requirements Subtotals :	$ 23,737
101400	**Signage**					
	interpretive sign	1	EA	$ 3,000	$ 3,000	
					Section Subtotal:	$ 3,000
129300	**Site Furnishings**					
	bench	6	EA	$ 1,500	$ 9,000	
	trash receptacle	2	EA	$ 1,000	$ 2,000	
					Section Subtotal:	$ 11,000
312000	**Earth Moving**					
	fine grade landscape	1,260	SY	$ 1	$ 1,260	
					Section Subtotal:	$ 1,260
321313	**Concrete Paving and Curbs**					
	concrete paving pedestrian	6,597	SF	$ 10	$ 65,970	
					Section Subtotal:	$ 65,970
328400	**Planting Irrigation**					
	backflow preventer / RPZ	1	EA	$ 2,500	$ 2,500	
	controller	1	EA	$ 5,000	$ 5,000	
					Section Subtotal:	$ 7,500
329200	**Turf and Grasses**					
	seed	1,260	SY	$ 1.50	$ 1,890	
	erosion control blanket	1,260	SY	$ 1.50	$ 1,890	
					Section Subtotal:	$ 3,780
329300	**Plants**					
	plant bed (shrubs, perennials, groundcover)	28,460	SF	$ 5	$ 142,300	
	mulch	263	CY	$ 50	$ 13,150	
	soil conditioner	263	CY	$ 60	$ 15,780	
					Section Subtotal:	$ 171,230

					Construction Cost Subtotals :	$ 263,740

					Total Construction Cost Subtotals :	$ 287,477

Other Project Costs						
master plan design contingency	1	LS		25%	$ 71,869	
survey fees	1	LS	$ 2,000		$ 2,000	
					Subtotal:	$ 73,869

Escalation						
Escalation year 1	1	LS		0%	$ -	
Escalation year 2	1	LS		0%	$ -	
					Subtotal:	$ -

Design and Engineering						
design, permit, contingencies, oversight	1	LS		37%	$ 133,698	
					Subtotal:	$ 133,698

					PROJECT TOTAL:	$ 495,044

Construction Cost Opinion

Area 17 - Climate Change Evaluation Gardens

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$13,982.40	
	general requirements	1	LS	5.0%	$23,304.00	
				Contracting and General Requirements Subtotals :		$ 41,947
101400	**Signage**					
	regulatory sign	1	EA	$ 800	$ 800	
	interpretive sign	1	EA	$ 3,000	$ 3,000	
					Section Subtotal:	$ 3,800
107000	**Exterior Specialties**					
	arbor	200	SF	$ 66	$ 13,200	
					Section Subtotal:	$ 13,200
129300	**Site Furnishings**					
	bench	14	EA	$ 1,500	$ 21,000	
	trash receptacle	4	EA	$ 1,000	$ 4,000	
					Section Subtotal:	$ 25,000
311000	**Site Clearing**					
	tree protection	14	EA	$ 400	$ 5,600	
	tree removal	14	EA	$ 500	$ 7,000	
					Section Subtotal:	$ 12,600
312000	**Earth Moving**					
	fine grade landscape	2,364	SY	$ 1	$ 2,364	
					Section Subtotal:	$ 2,364
321313	**Concrete Paving and Curbs**					
	concrete paving pedestrian	12,699	SF	$ 10	$ 126,990	
					Section Subtotal:	$ 126,990
328400	**Planting Irrigation**					
	backflow preventer / RPZ	1	EA	$ 2,500	$ 2,500	
	controller	1	EA	$ 5,000	$ 5,000	
	irrigation system - plant beds	24,672	SF	$ 5	$ 123,360	
					Section Subtotal:	$ 130,860

329200	**Turf and Grasses**							
	seed	942	SY	$	1.50	$	1,413	
	erosion control blanket	942	SY	$	1.50	$	1,413	
						Section Subtotal:		$ 2,826
329300	**Plants**							
	plant bed (shrubs, perennials, groundcover)	24,672	SF	$	5	$	123,360	
	mulch	228	CY	$	50	$	11,400	
	soil conditioner	228	CY	$	60	$	13,680	
						Section Subtotal:		$ 148,440
						Construction Cost Subtotals :		$ 466,080
						Total Construction Cost Subtotals :		$ 508,027
	Other Project Costs							
	master plan design contingency	1	LS		25%	$	127,007	
	survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:		$ 129,007
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
						Subtotal:		$ -
	Design and Engineering							
	design, permit, contingencies, oversight	1	LS		37%	$	235,703	
						Subtotal:		$ 235,703
						PROJECT TOTAL:		$ 872,737

Construction Cost Opinion

Area 18 - Arboretum Maintenance Complex

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$62,750.07	
	general requirements	1	LS	5.0%	$104,583.45	
					Contracting and General Requirements Subtotals :	$ 188,250
033000	**Cast-in-Place Concrete**					
	bulk material bins	4	EA	$ 5,000	$ 20,000	
					Section Subtotal:	$ 20,000
101400	**Signage**					
	regulatory sign	1	EA	$ 800	$ 800	
	vehicular sign	1	EA	$ 600	$ 600	
					Section Subtotal:	$ 1,400
107000	**Exterior Specialties**					
	maintenance building	3,200	SF	$ 250	$ 800,000	
	greenhouse	3,000	SF	$ 265	$ 795,000	
					Section Subtotal:	$ 1,595,000
129300	**Site Furnishings**					
	bench	3	EA	$ 1,500	$ 4,500	
	trash receptacle	2	EA	$ 1,000	$ 2,000	
	picnic table	2	EA	$ 1,500	$ 3,000	
	bike rack	3	EA	$ 800	$ 2,400	
					Section Subtotal:	$ 11,900
221113	**Facility Water Distribution Piping**					
	domestic water service 4"	110	FT	$ 110	$ 12,100	
	fire protection service 4"	110	FT	$ 110	$ 12,100	
	tapping valve and sleeve 6"	2	EA	$ 6,500	$ 13,000	
					Section Subtotal:	$ 37,200
221300	**Facility Sanitary Sewerage**					
	sanitary manhole	1	EA	$ 5,000	$ 5,000	
	sanitary sewer	220	FT	$ 90	$ 19,800	
	septic system with curtain underdrain	1	LS	$ 35,000	$ 35,000	
					Section Subtotal:	$ 59,800

	Electrical Service							
	Ameren - primary service and transformer	200	LF	$	110	$	22,000	
						Section Subtotal:		$ 22,000
	Natural Gas Service							
	Ameren - natural gas service	800	LF	$	60	$	48,000	
						Section Subtotal:		$ 48,000
	Communication Service							
	Other - communication service	450	LF	$	40	$	18,000	
						Section Subtotal:		$ 18,000
311000	**Site Clearing**							
	silt fence	1,100	LF	$	3	$	3,300	
	temporary construction fence	1,100	LF	$	4	$	4,400	
	tree removal	20	EA	$	500	$	10,000	
	clear and grub	15,000	SF	$	1	$	15,000	
						Section Subtotal:		$ 32,700
312000	**Earth Moving**							
	topsoil stripped and hauled off site	1,600	CY	$	30	$	48,000	
	contractor furnished structural fill	700	CY	$	40	$	28,000	
	12' lime stabilization	2,700	SY	$	8	$	21,600	
	fine grade landscape	4,300	SY	$	1	$	4,300	
	balanced earthwork (berm)	1,667	CY	$	15	$	25,005	
						Section Subtotal:		$ 126,905
321313	**Concrete Paving and Curbs**							
	concrete paving vehicular	1,564	SF	$	11	$	17,204	
						Section Subtotal:		$ 17,204
329200	**Turf and Grasses**							
	seed	2,300	SY	$	1.50	$	3,450	
	erosion control blanket	2,300	SY	$	1.50	$	3,450	
						Section Subtotal:		$ 6,900
329300	**Plants**							
	shade tree	7	EA	$	600	$	4,200	
	evergreen tree	22	EA	$	500	$	11,000	
	ornamental tree	18	EA	$	400	$	7,200	
	plant bed (shrubs, perennials, groundcover)	18,000	SF	$	3	$	54,000	
	mulch	166	CY	$	50	$	8,300	
	soil conditioner	166	CY	$	60	$	9,960	
						Section Subtotal:		$ 94,660
						Construction Cost Subtotals :		$ 2,091,669
						Total Construction Cost Subtotals :		$ 2,279,919
	Other Project Costs							
	master plan design contingency	1	LS		37%	$	843,570	
	survey fees	1	LS	$	3,000	$	3,000	
						Subtotal:		$ 846,570
	Escalation							
	Escalation year 1	1	LS		0%	$	-	
	Escalation year 2	1	LS		0%	$	-	
						Subtotal:		$ -

Design and Engineering						
design, permit, contingencies, oversight	1	LS	37%	$	1,156,801	
					Subtotal:	$ 1,156,801
					PROJECT TOTAL:	$ 4,283,290

HITCHCOCK DESIGN GROUP
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Construction Cost Opinion
Area 19 - F&S Maintenance Complex

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$141,592.02	
	general requirements	1	LS	5.0%	$235,986.70	
					Contracting and General Requirements Subtotals :	$ 424,776
033000	**Cast-in-Place Concrete**					
	bulk material bins	10	EA	$ 5,000	$ 50,000	
					Section Subtotal:	$ 50,000
101400	**Signage**					
	regulatory sign	2	EA	$ 800	$ 1,600	
	interpretive sign	1	EA	$ 3,000	$ 3,000	
	vehicular sign	2	EA	$ 600	$ 1,200	
	entry sign	1	EA	$ 5,000	$ 5,000	
					Section Subtotal:	$ 10,800
107000	**Exterior Specialties**					
	F&S building expansion	3,850	SF	$ 150	$ 577,500	
	F&S building remodel	1,950	SF	$ 150	$ 292,500	
	lath house	4,865	SF	$ 66	$ 321,090	
					Section Subtotal:	$ 1,191,090
129300	**Site Furnishings**					
	bench	3	EA	$ 1,500	$ 4,500	
	trash receptacle	3	EA	$ 1,000	$ 3,000	
	picnic table	3	EA	$ 1,500	$ 4,500	
	bike rack	3	EA	$ 800	$ 2,400	
					Section Subtotal:	$ 14,400
221113	**Facility Water Distribution Piping**					
	domestic water service 2"	50	FT	$ 80	$ 4,000	
	water valve 2"	1	EA	$ 1,000	$ 1,000	
	corporation stop	1	EA	$ 600	$ 600	
					Section Subtotal:	$ 5,600
221300	**Facility Sanitary Sewerage**					
	sanitary sewer	350	FT	$ 90	$ 31,500	
					Section Subtotal:	$ 31,500

	Natural Gas Service							
	Ameren - natural gas service	330	LF	$	60	$	19,800	
						Section Subtotal:		$ 19,800
	Communication Service							
	Other - communication service from Arboretum Maintenance Building	300	LF	$	40	$	12,000	
						Section Subtotal:		$ 12,000
311000	**Site Clearing**							
	silt fence	2,105	LF	$	3	$	6,315	
	temporary construction fence	2,105	LF	$	4	$	8,420	
	clear and grub	54,000	SF	$	1	$	54,000	
	remove gravel paving	70,000	SF	$	2	$	140,000	
						Section Subtotal:		$ 208,735
312000	**Earth Moving**							
	topsoil stripped and hauled off site	7,000	CY	$	30	$	210,000	
	contractor furnished structural fill	350	CY	$	40	$	14,000	
	12" lime stabilization	20,000	SY	$	8	$	160,000	
	fine grade landscape	6,633	SY	$	1	$	6,633	
	balanced earthwork (berm)	17,360	CY	$	15	$	260,400	
						Section Subtotal:		$ 651,033
321313	**Concrete Paving and Curbs**							
	concrete paving pedestrian	22,067	SF	$	10	$	220,670	
	concrete paving vehicular	167,950	SF	$	11	$	1,847,450	
						Section Subtotal:		$ 2,068,120
323119	**Decorative Metal Fences and Gates**							
	swing gate	1	EA	$	1,000	$	1,000	
						Section Subtotal:		$ 1,000
328400	**Planting Irrigation**							
	backflow preventer / RPZ	1	EA	$	2,500	$	2,500	
	controller	1	EA	$	5,000	$	5,000	
						Section Subtotal:		$ 7,500
329200	**Turf and Grasses**							
	seed	1,722	SY	$	1.50	$	2,583	
	erosion control blanket	1,722	SY	$	1.50	$	2,583	
						Section Subtotal:		$ 5,166
329300	**Plants**							
	shade tree	30	EA	$	600	$	18,000	
	evergreen tree	10	EA	$	500	$	5,000	
	ornamental tree	10	EA	$	400	$	4,000	
	plant bed (shrubs, perennials, groundcover)	44,200	SF	$	5	$	221,000	
	mulch	409	CY	$	50	$	20,450	
	soil conditioner	409	CY	$	60	$	24,540	
						Section Subtotal:		$ 292,990
334100	**Storm Utility Drainage Piping**							
	F&S Stormwater Retention Allowance	1	LS	$	150,000	$	150,000	
						Section Subtotal:		$ 150,000
						Construction Cost Subtotals :		$ 4,719,734
						Total Construction Cost Subtotals :		$ 5,144,510

Other Project Costs						
master plan design contingency	1	LS		25%	$ 1,286,128	
survey fees	1	LS	$ 7,000		$ 7,000	
					Subtotal:	$ 1,293,128
Escalation						
Escalation year 1	1	LS		0%	$ -	
Escalation year 2	1	LS		0%	$ -	
					Subtotal:	$ -
Design and Engineering						
design, permit, contingencies, oversight	1	LS		37%	$ 2,381,926	
					Subtotal:	$ 2,381,926
					PROJECT TOTAL:	$ 8,819,563

HITCHCOCK DESIGN GROUP
creating better places

Construction Cost Opinion
Area 20 - Pollinatarium

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs						
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost	Subtotal
0 & 1	**Contracting and General Requirements**					
	contracting requirements	1	LS	3.0%	$15,498.06	
	general requirements	1	LS	5.0%	$25,830.10	
					Contracting and General Requirements Subtotals :	$ 46,494
101400	**Signage**					
	regulatory sign	1	EA	$ 800	$ 800	
	interpretive sign	2	EA	$ 3,000	$ 6,000	
	vehicular sign	2	EA	$ 600	$ 1,200	
					Section Subtotal:	$ 8,000
107000	**Exterior Specialties**					
	shelter	1	EA	$ 50,000	$ 50,000	
	exhibits	1	LS	$ 30,000	$ 30,000	
					Section Subtotal:	$ 80,000
129300	**Site Furnishings**					
	bench	8	EA	$ 1,500	$ 12,000	
	trash receptacle	5	EA	$ 1,000	$ 5,000	
	table and chairs (small)	2	EA	$ 5,000	$ 10,000	
	table and chairs (large)	8	EA	$ 7,500	$ 60,000	
	picnic table	6	EA	$ 1,500	$ 9,000	
	bike rack	5	EA	$ 800	$ 4,000	
	power bollard	8	EA	$ 1,500	$ 12,000	
					Section Subtotal:	$ 112,000
224700	**Drinking Fountains**					
	drinking fountain	1	EA	$ 8,000	$ 8,000	
					Section Subtotal:	$ 8,000
311000	**Site Clearing**					
	silt fence	460	LF	$ 3	$ 1,380	
	temporary construction fence	460	LF	$ 4	$ 1,840	
	tree removal	1	EA	$ 500	$ 500	
	remove gravel paving	3,970	SF	$ 2	$ 7,940	
					Section Subtotal:	$ 11,660

312000	Earth Moving							
	topsoil stripped and hauled off site	700	CY	$	30	$	21,000	
	fine grade landscape	692	SY	$	1	$	692	
						Section Subtotal:		$ 21,692

321313	Concrete Paving and Curbs							
	concrete paving pedestrian	4,505	SF	$	10	$	45,050	
	concrete paving vehicular	5,453	SF	$	11	$	59,983	
	concrete curb	584	LF	$	30	$	17,520	
						Section Subtotal:		$ 122,553

321400	Unit Paving							
	permeable pavers - vehicular	3,490	SF	$	15	$	52,350	
						Section Subtotal:		$ 52,350

323119	Decorative Metal Fences and Gates							
	swing gate	1	EA	$	1,000	$	1,000	
						Section Subtotal:		$ 1,000

328400	Planting Irrigation							
	backflow preventer / RPZ	1	EA	$	2,500	$	2,500	
	controller	1	EA	$	5,000	$	5,000	
	irrigation system - plant beds	1,600	SF	$	5	$	8,000	
						Section Subtotal:		$ 15,500

329200	Turf and Grasses							
	seed	514	SY	$	1.50	$	771	
	erosion control blanket	514	SY	$	1.50	$	771	
						Section Subtotal:		$ 1,542

329300	Plants							
	shade tree	8	EA	$	600	$	4,800	
	plant bed (shrubs, perennials, groundcover)	1,600	SF	$	5	$	8,000	
	mulch	15	CY	$	50	$	750	
	soil conditioner	15	CY	$	60	$	900	
	bioswale soil	41	CY	$	60	$	2,460	
	bioswale plugs	249	EA	$	5	$	1,245	
	bioswale mulch	3	CY	$	50	$	150	
						Section Subtotal:		$ 18,305

334100	Storm Utility Drainage Piping							
	manhole	1	EA	$	2,500	$	2,500	
	storm sewer pipe	150	LF	$	60	$	9,000	
						Section Subtotal:		$ 11,500

334100	Sub drainage							
	underdrain pipe permeable paving	300	LF	$	35	$	10,500	
	CA-7 aggregate under permeable paving	500	CY	$	60	$	30,000	
	geogrid reinforcement	1,000	SY	$	8	$	8,000	
	non-woven fabric	1,000	SY	$	4	$	4,000	
						Section Subtotal:		$ 52,500

	Construction Cost Subtotals :	$ 516,602

	Total Construction Cost Subtotals :	$ 563,096

Other Project Costs							
master plan design contingency	1	LS		25%	$	140,774	
survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:	$ 142,774
Escalation							
Escalation year 1	1	LS		0%	$	-	
Escalation year 2	1	LS		0%	$	-	
						Subtotal:	$ -
Design and Engineering							
design, permit, contingencies, oversight	1	LS		37%	$	261,172	
						Subtotal:	$ 261,172
						PROJECT TOTAL:	$ 967,042

Construction Cost Opinion
Area 21 - South Arboretum Woods

Date: June 30, 2021
RE: UIUC Arboretum Master Plan

Construction Costs							
Section	Description	Estimated Quantity	Unit	Unit Cost	Extended Cost		Subtotal
0 & 1	**Contracting and General Requirements**						
	contracting requirements	1	LS	3.0%	$63,143.85		
	general requirements	1	LS	5.0%	$105,239.75		
					Contracting and General Requirements Subtotals :	$	189,432
101400	**Signage**						
	directional sign	4	EA	$ 800	$ 3,200		
	interpretive sign	3	EA	$ 3,000	$ 9,000		
	vehicular sign	2	EA	$ 600	$ 1,200		
	entry sign (masonry)	2	EA	$ 10,000	$ 20,000		
					Section Subtotal:	$	33,400
107000	**Exterior Specialties**						
	pavilion	1,755	SF	$ 300	$ 526,500		
	arbor	1	EA	$ 44,000	$ 44,000		
					Section Subtotal:	$	570,500
129300	**Site Furnishings**						
	bench	12	EA	$ 1,500	$ 18,000		
	trash receptacle	6	EA	$ 1,000	$ 6,000		
	table and chairs	6	EA	$ 7,500	$ 45,000		
	picnic table	8	EA	$ 1,500	$ 12,000		
	bike rack	5	EA	$ 800	$ 4,000		
					Section Subtotal:	$	85,000
221113	**Facility Water Distribution Piping**						
	domestic water service - directional bore	100	FT	$ 50	$ 5,000		
	water valve	1	EA	$ 1,000	$ 1,000		
	corporation stop	1	EA	$ 600	$ 600		
					Section Subtotal:	$	6,600
221300	**Facility Sanitary Sewerage**						
	sanitary sewer	35	FT	$ 80	$ 2,800		
	septic system with curtain underdrain	1	LS	$ 25,000	$ 25,000		
					Section Subtotal:	$	27,800

265600	Exterior Lighting							
	electrical service from F&S Building	500	LF	$	40	$	20,000	
	electrical panel	1	LS	$	5,000	$	5,000	
						Section Subtotal:		$ 25,000

311000	Site Clearing							
	tree protection	30	EA	$	400	$	12,000	
	tree removal	15	EA	$	500	$	7,500	
	clear and grub	15,288	SF	$	1	$	15,288	
	remove gravel paving	22,254	SF	$	2	$	44,508	
						Section Subtotal:		$ 79,296

312000	Earth Moving							
	topsoil stripped and hauled off site	350	CY	$	30	$	10,500	
	contractor furnished structural fill	350	CY	$	40	$	14,000	
	fine grade landscape	15,181	SY	$	1	$	15,181	
						Section Subtotal:		$ 39,681

321313	Concrete Paving and Curbs							
	concrete paving pedestrian	44,507	SF	$	10	$	445,070	
	concrete paving vehicular	31,953	SF	$	11	$	351,483	
	track surfacing at cross-country course crossings (20' min. widht)	134	SY	$	25	$	3,350	
	concrete curb	511	LF	$	30	$	15,330	
						Section Subtotal:		$ 815,233

323119	Decorative Metal Fences and Gates							
	swing gate	1	EA	$	1,000	$	1,000	
						Section Subtotal:		$ 1,000

327300	Prairie Establishment							
	prairie seeding	2,103	SY	$	1.50	$	3,155	
	prairie plugs	841	EA	$	5	$	4,205	
	erosion control blanket	2,103	SY	$	1.50	$	3,155	
						Section Subtotal:		$ 10,514

329200	Turf and Grasses							
	seed	7,732	SY	$	1.50	$	11,598	
	erosion control blanket	7,732	SY	$	1.50	$	11,598	
	cross-country shade tolerant turf (15' wide, includes grading, seed, blanket)	5,280	SY	$	15.00	$	79,200	
						Section Subtotal:		$ 102,396

329300	Plants							
	shade tree	7	EA	$	600	$	4,200	
	ornamental tree	15	EA	$	400	$	6,000	
	plant bed (shrubs, perennials, groundcover)	39,117	SF	$	5	$	195,585	
	mulch	362	CY	$	50	$	18,100	
	soil conditioner	362	CY	$	60	$	21,720	
	bioswale soil	667	CY	$	60	$	40,020	
	bioswale plugs	4,000	EA	$	5	$	20,000	
	bioswale mulch	55	CY	$	50	$	2,750	
						Section Subtotal:		$ 308,375

	Construction Cost Subtotals :	$ 2,104,795

	Total Construction Cost Subtotals :	$ 2,294,227

Other Project Costs							
master plan design contingency	1	LS		25%	$	573,557	
survey fees	1	LS	$	2,000	$	2,000	
						Subtotal:	$ 575,557
Escalation							
Escalation year 1	1	LS		0%	$	-	
Escalation year 2	1	LS		0%	$	-	
						Subtotal:	$ -
Design and Engineering							
design, permit, contingencies, oversight	1	LS		37%	$	1,061,820	
						Subtotal:	$ 1,061,820
						PROJECT TOTAL:	$ 3,931,603

Acknowledgments

CLIENT

STAKEHOLDERS / END USERS

Kimberlee Kidwell, Dean of the College of ACES (Agricultural, Consumer, and Environmental Sciences)

Kimberly Meenen, Assistant Dean for Advancement for ACES

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