Decolonizing Education to Meet the Demands of Climate Change: reACT Testbed

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

LARC 640 Graduate Studio I
LARC 240 Graphic Communication & Design Studio
Instructor: Naomi Sachs, PhD, MLA, EDAC
Fall 2022 & Spring 2023

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Image: Maryland Indigenous Territories, native-land.ca

UMD Land Acknowledgement

Every community owes its existence and strength to the generations before them, around the world, who contributed their hopes, dreams, and energy into making the history that led to this moment. Truth and acknowledgement are critical in building mutual respect and connections across all barriers of heritage and difference.

So, we acknowledge the truth that is often buried: We are on the ancestral lands of the Piscataway People, who are the ancestral stewards of this sacred land. It is their historical responsibility to advocate for the four-legged, the winged, those that crawl and those that swim. They remind us that clean air and pristine waterways are essential to all life.

This Land Acknowledgement is a vocal reminder for each of us as two-leggeds to ensure our physical environment is in better condition than what we inherited, for the health and prosperity of future generations.

We also acknowledge that throughout our history, our university has not always lived up to our ideals of diversity, equity and inclusion. Today we reaffirm our commitment to building and celebrating a multicultural community. Please take a moment to consider these many legacies of bias, prejudice, violence, and settlement that bring us here today.

Acknowledgements

We were fortunate in Fall 2022 and Spring 2023 to be part of the Decolonizing Education to Meet Climate Change Demands: reACT Testbed Lab grant, generously funded by the UMD Teaching and Learning Transformation Center. We are grateful to Patti Cossard, the grant's Principal Investigator, for the invitation to participate and for her time and enthusiasm every step of the way. All of us have learned and grown through this process.

Many thanks to Stephanie Cavanaugh, Teaching Assistant for LARC 240, as well as the talented, thoughtful 8 graduate and 17 undergraduate students in their respective studios for the heart and many hours of work they put into their projects:

LARC 640
Stephanie Cavanaugh
Lauren Hudson
Eve Josar
Elliott Kenney
Phoenix Morrison
Stephanie Pully
Dana Watkiss
Auran Zaman

LARC 240
Caleb Austin
Juan Bajana
Isabella Barresi
Elia Choi
Bianca Darago
Lili Francisco
Grazelle Giray
Gracie Guerrero
Wyatt Howell
Calvin Hruby
Rachel Kinsey
Christina Le
Joe Mallow
David Phan
Tiara Rachman
Alan Shi
Nathan Temesgen

We appreciate the work of Rico Newman, Choptiko Band of Piscataway Conoy Indians; Kyle Harmon, Nanticoke Indian Association; and Francis Gray, Chair of the Piscataway Conoy Indians for participating in the grant by giving their time and sharing their stories and perspectives. Thank you to Michael Carmichael, Mary Christensen, Patti Cossard, Michael Ezban, Daniel Hayes, and Dennis Nola for your participation in mid-point and final design reviews. To Michael Carmichael, Peter May, Karen Petroff, and Jana VanderGoot for presentations at the site. And to guest speakers Patti Cossard and Dennis Nola for in-class presentations and desk critiques.

We are grateful to Michael Ezban for including our studio in reviews and meetings, and for the frame of this report.

Finally, a big thank you to Caleb Austin for his terrific graphics work on this report.

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Image: Naomi Sachs, LARC S2023

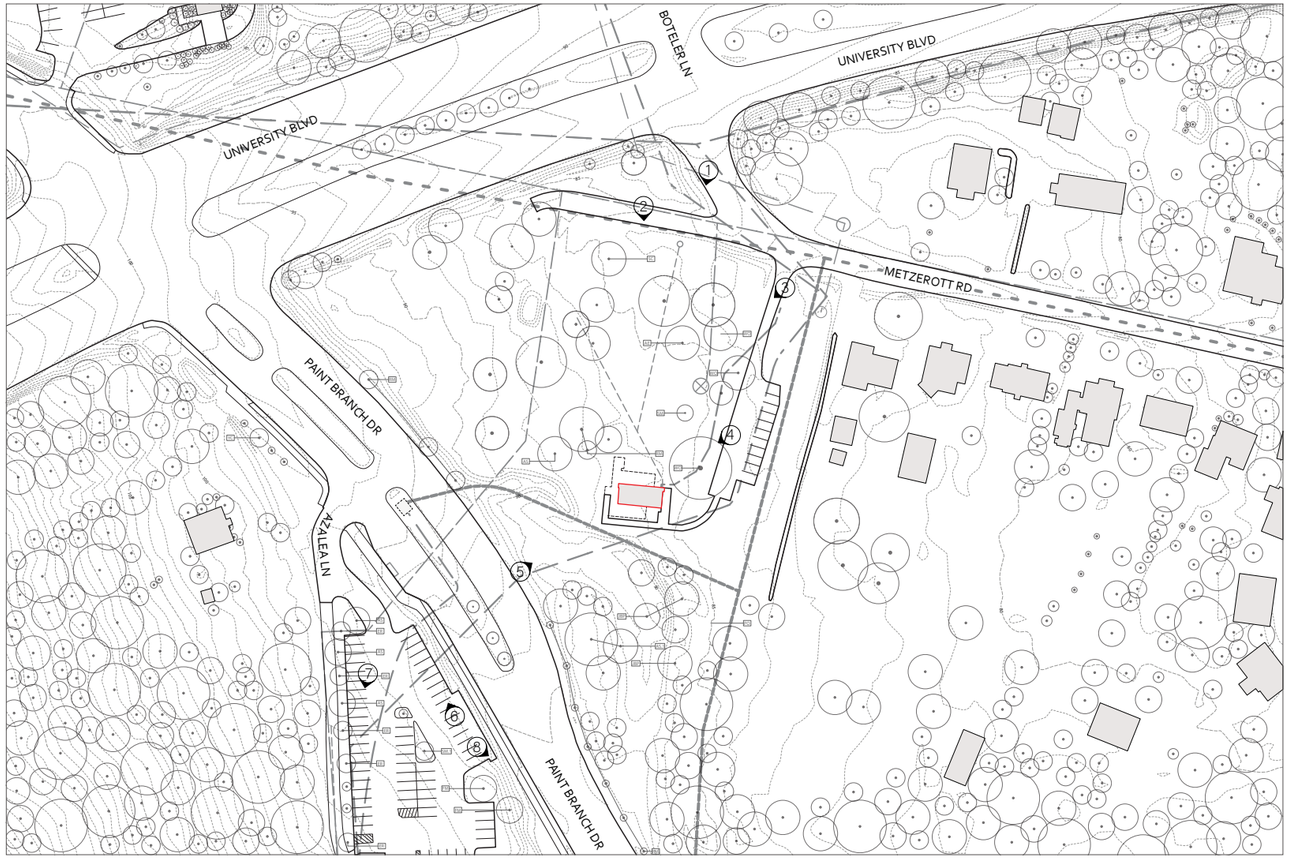
01

Course & Project Overview

Reimagining the Solar Decathlon Site Using Indigenous Knowledge

The third and final project for the LARC 640 (Fall 2022) and LARC 240 (Spring 2023) studios was part of a 2022-2023 grant awarded by the University of Maryland Teaching and Learning Transformation Center (TLTC), “Decolonizing Education to Meet the Demands of Climate Change: reACT Testbed.”

The grant funded a “Climate Change Grand Challenge experiential learning program building upon the success of 2017 Solar Decathlon Team Maryland whose prototype resilient Adaptive Climate Technology (re-ACT) embodied a whole systems design inclusive of Indigenous communities and Indigenous Knowledge (IK) through interdisciplinary instruction” (Grant application, Decolonizing Education to Meet the Demands of Climate Change: reACT Testbed).



TITLE: reACT Solar Decathlon House Site Plan

LEGEND

Buildings	Paint Branch Gate	LEAFHouse
Commercial Duct	Natural Gas Pipe	WSSC Water Meter
Water Pipe Service	SSWR Pipe	Power Duct
AT&T Fiber	Perspective Tag	Water Hydrant

EXISTING TREE INVENTORY

SM Sweetbay Magnolia *Magnolia Virginiana*	SM.1 Sugar Maple *Acer Saccharum*	SC Species Crabapple *Malus Sp.*
YC Yoshino Cherry *Prunus x Yedoensis*	AS.1 American Sweetgum *Liquidambar Styraciflua*	PO Pine Oak *Quercus Palustris*
RM Red Maple *Acer Rubrum*	WO Willow Oak *Quercus Phellos*	FM Freeman Maple *Acer x Freemanii*
AS American Sycamore *Platanus Occidentalis*	AE American Elm *Ulmus Americana*	JBP Japanese Black Pine *Pinus Thunbergii*
ER Eastern Redbud *Cercis Canadensis*		

The course focused on a site at the northern edge of the University of Maryland College Park campus. The site is bounded by University Avenue to the north and Paint Branch Drive to the west. The LEAF Solar Decathlon structure is currently positioned at the southern edge of the site, and the site is bounded to the east by a small parking area. Elements of the unconstructed reACT house currently occupy the parking area.

Image: Yan Konan, ARCH 460 F2022

The award-winning reACT House, which had been slated for reconstruction on the site, "utilizes a de-colonized educational paradigm that frames nature as living, dignified, intelligent, and deeply connected to humanity–a perspective that is place-based, nature-based, ecologically guided, reflecting patterns of life, natural rhythms of energies, and the spiritual, mental, physical, and emotional needs of human beings" (grant application).

The overall goal of the grant was to "inspire students to rethink their relationship to the world so that they are aware of their agency to steward and advocate for nature while pursuing sustainable building [and design]* careers and designing innovative high-performance, low-carbon buildings [and landscapes] powered by renewable energy and to be sensitive to the colonial structures that trap them inside, with nature as a distant 'other.' Develop skills necessary for the next generation of design teams by challenging students to think beyond colonial structures, zero energy ready buildings [and landscapes] and address complex real-world issues—energy insecurity, food systems, waste streams, carbon emissions, inequity, and social inequality through building/site design" (grant application).

*Text in [brackets] was added for the LARC studios

Image: Lili Francisco, LARC S2023

Image: Lili Francisco, LARC S2023

Our LARC studio task was to build upon the Indigenous Knowledge and principles from the reACT House and utilize them for a regenerative design of the "Solar Decathlon Site."

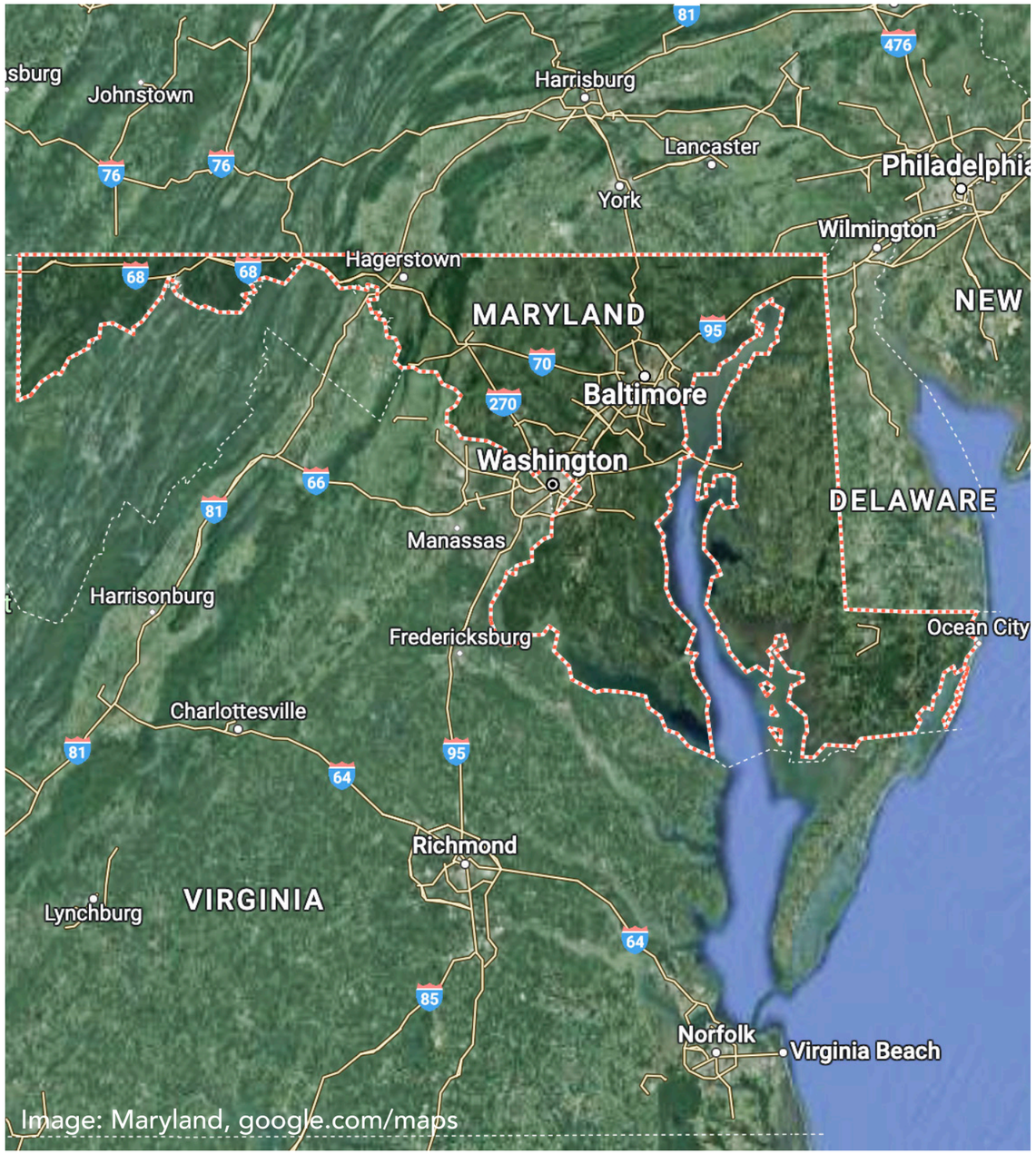
Learning Goals

Learning Goals for LARC 240 and LARC 640:

- Learn and investigate the meaning/s of
  - Regenerative design
  - Indigenous Knowledge
  - Decolonizing education
  - Decolonizing design
- Employ facets of Indigenous Knowledge (IK) in research, programming, and design for the site (the site and all of its potential users: humans, trees and other plants, and the "four-legged, the winged, those that crawl and those that swim")
- Conduct and graphically represent site inventory and analysis and demonstrate its impact on the design
- Deepen and strengthen graphic representation skills with new techniques and tools

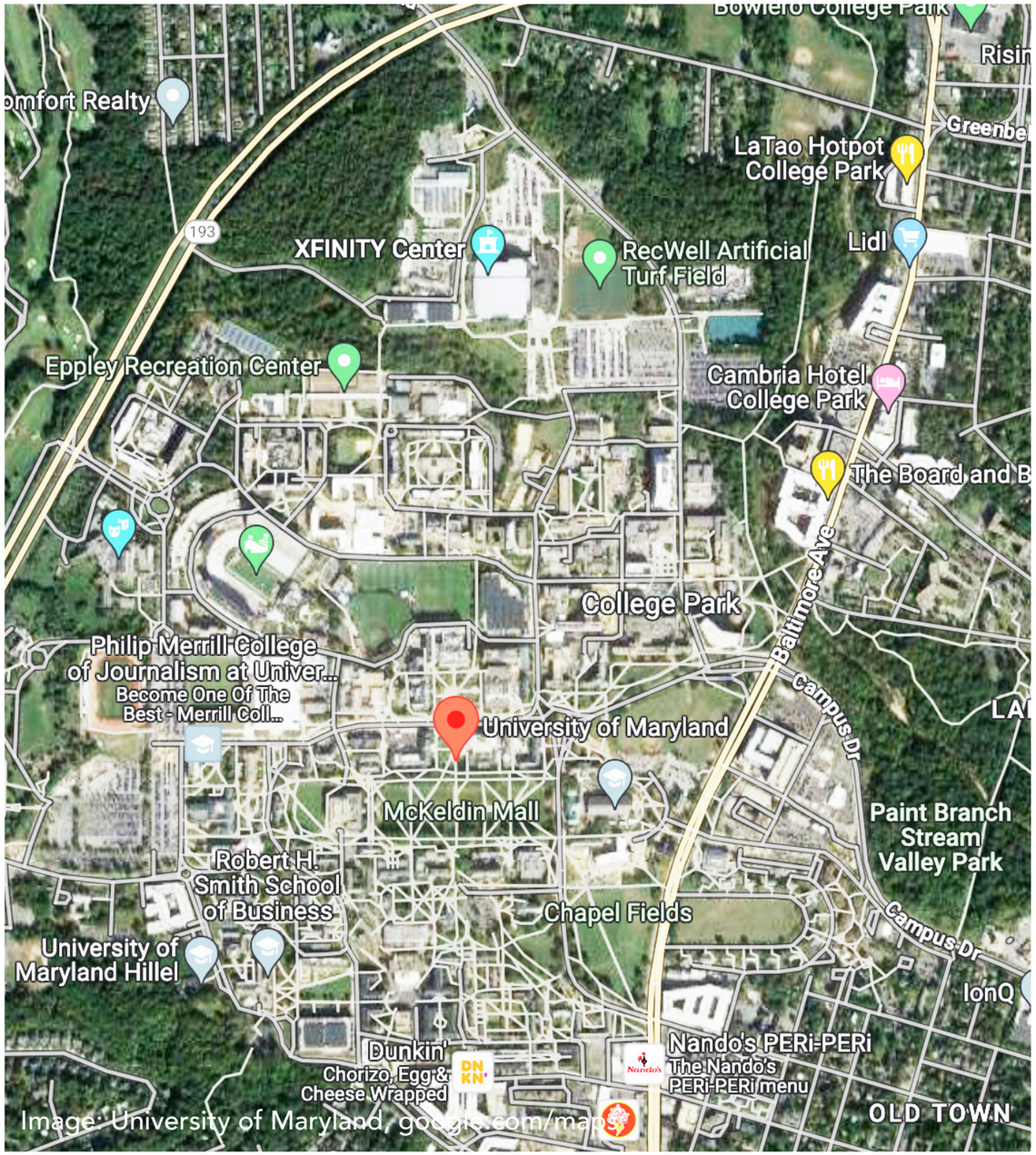
Site Context Images

Regional



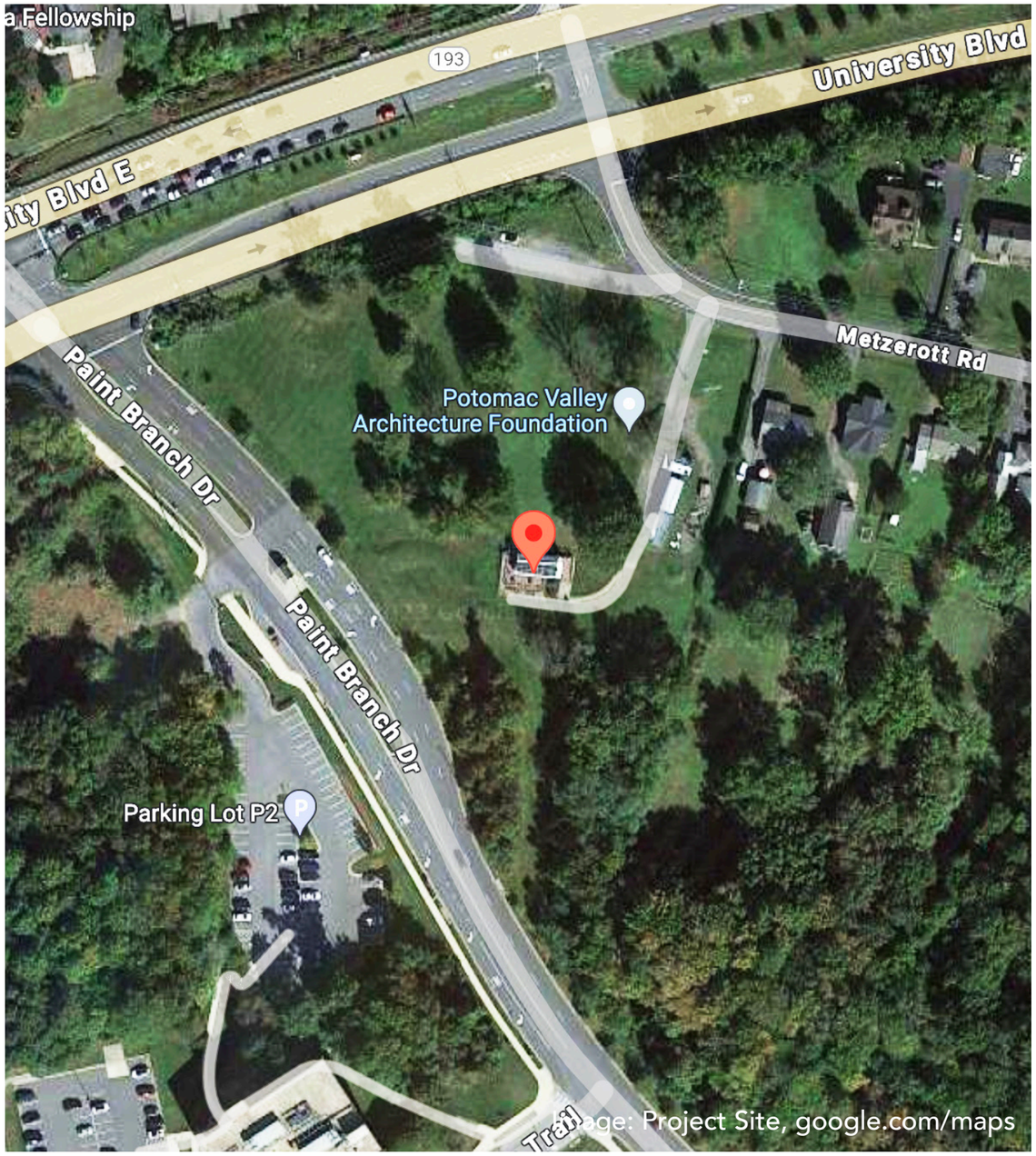
Site Context

University of Maryland



Site Context

Aerial Photograph



Site Context

Aerial Photograph & Base Map

02

Site Inventory & Analysis

Site Inventory, Data Collection, and Representation

All students conducted a Site Inventory using James LaGro's site inventory and analysis methodology.

In LARC 640, groups of two and three collected physical, biological, and cultural data about the site and then were tasked with graphically representing the most pertinent information in a novel, aesthetically compelling format.

In LARC 240, students completed a "First Impressions" assignment after their first site visit, during which they were asked to experience the site using all of their senses, and to record their perceptions in photos, sketches, and narrative descriptions. Prompts were "What did the site look like, sound like, smell like? How did it make you feel? Did different spaces feel 'better' or 'worse' than others?" Students were also invited to jot down initial program or design thoughts. Students then completed a SWOT Analysis of the site.

Image: Caleb Austin, LARC S2023

Image: Naomi Sachs, LARC S2023

Final Group Site Inventory board

LARC 640

Regenerative Design of Solar Decathalon Site Using Indigenous Knowledge

PROJECT NARRATIVE

As part of a 2022-2023 grant awarded by the UMD Teaching and Learning Transformation Center (TLTC) called "Decolonizing Education to Meet the Demands of Climate Change: reACT Testbed", we were challenged to rethink our relationship to the world so that we are aware of our agency to steward and advocate for nature. We shifted our perspective to a decolonized educational paradigm that frames nature as living, dignified, intelligent, and deeply connected to humanity–a perspective that is place-based, nature-based, ecologically guided, reflecting patterns of life, natural rhythms of energies, and the spiritual, mental, physical, and emotional needs of human beings. We were encouraged to design innovative high-performance, low-carbon landscapes powered by renewable energy and to be sensitive to the colonial structures that trap us inside, with nature as a distant "other". We considered zero energy ready landscapes and complex real-world issues like energy insecurity, food systems, waste streams, carbon emissions, inequity, and social inequality through building/site design.

DESIGN PROGRAM

- Propose a new site name
- Universal Design (Minimum ADA-Compliance)
- Use Indigenous Knowledge
- Integrate the built environment
- Artfully manage stormwater
- Opportunities for active engagement with the site

DECOLONIZING EDUCATION

- Experiential learning
- Bottom-up approach
- Thinking outside the box
- Broadening horizons

UNIVERSITY OF MARYLAND LAND ACKNOWLEDGMENT

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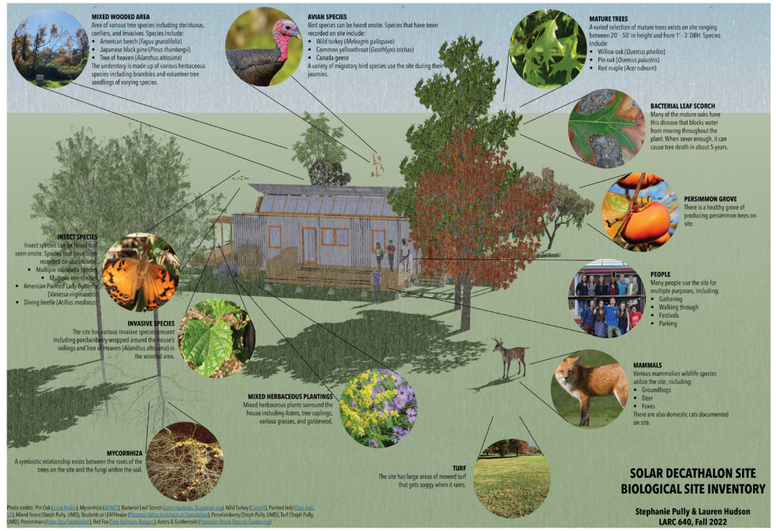
BIOLOGICAL ATTRIBUTES



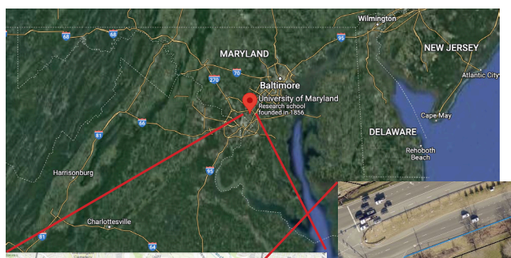
NATURAL AND CULTURAL HAZARDS

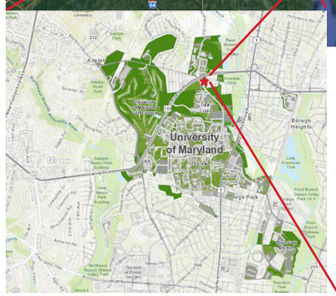
From left to right: drought, flooding, tornadoes, hurricanes, seismic activity, stormwater runoff, transfer of ownership, development

SITE INVENTORY

CULTURAL ATTRIBUTES

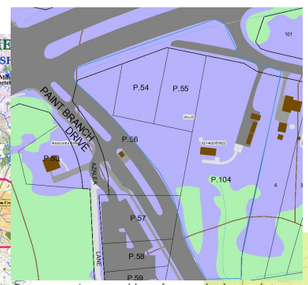
SITE LOCATION



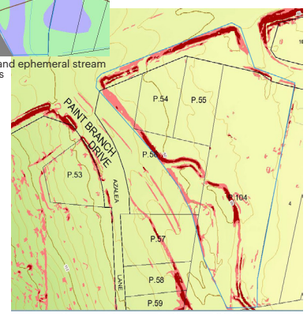


PHYSICAL ATTRIBUTES

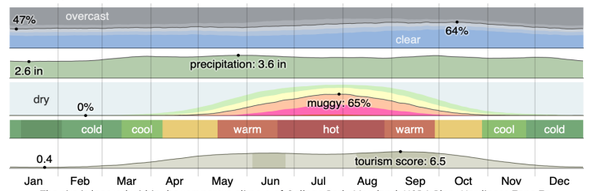
The site, marked on the site by a red star, is in the Anacostia watershed which eventually drains to the Chesapeake Bay.



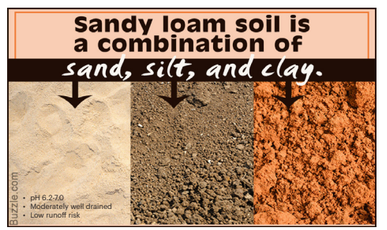
Tree canopy, impermeable surfaces and ephemeral stream
Source: PG Atlas



Slope and topography Source: PG Atlas



The site is located within the temperate climate of College Park, Maryland. USDA Plant Hardiness Zone 7a. Precipitation onsite often leads to soil saturation. Graphic credit: Weather Spark



LARC 640, Fall 2022
Dr. Naomi Sachs
Stephanie Cavanaugh, Lauren Hudson, Eve Josar,
Elliott Kenney, Phoenix Morrison, Stephanie Pully, Dana Watkiss, Auran Zaman

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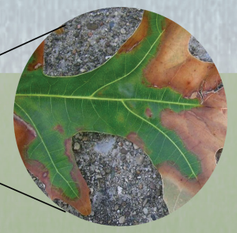
MIXED WOODED AREA
Area of various tree species including deciduous, confiers, and invasives. Species include:
- American beech (*Fagus grandifolia*)
- Japanese black pine (*Pinus thunbergii*)
- Tree of heaven (*Ailanthus altissima*)

The understory is made up of various herbaceous species including brambles and volunteer tree seedlings of varying species.

AVIAN SPECIES
Bird species can be heard onsite. Species that have been recorded on site include:
- Wild turkey (*Meleagris gallopavo*)
- Common yellowthroat (*Geothlypis trichas*)
- Canada geese

A variety of migratory bird species use the site during their journies.

MATURE TREES
A varied selection of mature trees exists on site ranging between 20' - 50' in height and from 1' - 3' DBH. Species include:
- Willow oak (*Quercus phellos*)
- Pin oak (*Quercus palustris*)
- Red maple (*Acer rubrum*)



BACTERIAL LEAF SCORCH
Many of the mature oaks have this disease that blocks water from moving throughout the plant. When sever enough, it can cause tree death in about 5 years.

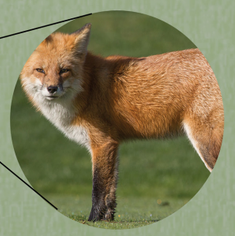
PERSIMMON GROVE
There is a healthy grove of producing persimmon trees on site.

PEOPLE
Many people use the site for multiple purposes, including:
- Gathering
- Walking through
- Festivals
- Parking

INSECT SPECIES
Insect species can be heard and seen onsite. Species that have been recorded on site include:
- Multiple mosquito species
- Multiple bee species
- American Painted Lady Butterfly (*Vanessa virginiensis*)
- Diving beetle (*Acilius mediatus*)

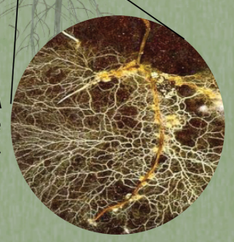
INVASIVE SPECIES
The site has various invasive species present including porclainberry wrapped around the house's railings and Tree of Heaven (*Ailanthus altissima*) in the wooded area.

MIXED HERBACEOUS PLANTINGS
Mixed herbaceous plants surround the house including Asters, tree saplings, various grasses, and goldenrod.



MAMMALS
Various mammalian wildlife species utilize the site, including:
- Groundhogs
- Deer
- Foxes

There are also domestic cats documented on site.



MYCORRHIZA
A symbiotic relationship exists between the roots of the trees on the site and the fungi within the soil.

TURF
The site has large areas of mowed turf that gets soggy when it rains.

SOLAR DECATHALON SITE BIOLOGICAL SITE INVENTORY

Stephanie Pully & Lauren Hudson
LARC 640, Fall 2022

Photo credits: Pin Oak (Julie Makin), Mycorrhiza (AFINET), Bacterial Leaf Scorch (John Hartman, Bugwood.org), Wild Turkey (Cornell), Painted lady (Don Hall, F), Mixed forest (Steph Pully, UMD), Students at LEAFHouse (Potomac Valley Architecture Foundation), Porcelainberry (Steph Pully, UMD), Turf (Steph Pully, MD), Persimmon (Arbor Day Foundation), Red Fox (Tory Kallman, Rutgers), Asters & Goldenrods (Pumpkin Brook Organic Gardening)

Site Inventory First Impression

Alan Shi
LARC 240

The site was *pretty* bare with a dozen trees around the landscape; maples, elms, and oaks. Three smaller buildings and the larger solar decathlon project resided on one corner of the site. The inside of the decathlon house was clean and well maintained while the smaller houses to the side were used as mostly storage for parts. The outside of the decathlon house lacked upkeep with it looking like it had been abandoned recently. Walking around the landscape you could feel the unevenness of the ground everywhere. The space around and behind the decathlon house as well as the corner opposite of the houses felt the most inspiring. I also liked the berms to the side of the house, it created a visual and physical barrier. The "worst" parts of the site was the side where the smaller houses were placed and the drainage ditch parallel to the road.

This site has a lot of potential. The amount of undeveloped land springs inspiration for many possibilities. A couple issues I want to address upfront is isolating the space from its neighbors and the roads. In addition, to employ facets of Indigenous knowledge, I plan to use a lot of natural materials and native plants. The area would be inviting to wildlife and humans alike and convey a connection between man and nature.

Site Inventory First Impression

Lili Francisco
LARC 240

The site was *very* open and green. I loved that it was so tranquil. The only sounds that were around were the cars from the street and birds chirping. The space made me feel very relaxed and I felt like I could be there for hours. When we sat on the deck of the leaf house it felt very peaceful and I felt "one with nature" but when we were near the smaller houses it didn't feel that way. It felt more like I was on a construction site since they weren't complete or being repaired. I think the area where the leaf house is the space I would consider 'better.'

For my design I want to keep a nature or "one with nature" theme. I want to keep a lot of green space and add a lot of vegetation. As for the rest of my design, I am not sure what I want to do with the site but I will definitely look for some inspiration!

Site Inventory First Impression

Caleb Austin
LARC 240

- Just sort of plopped here here
- Quite a few mature trees
- Deer pressore
- Neighbors to consroler

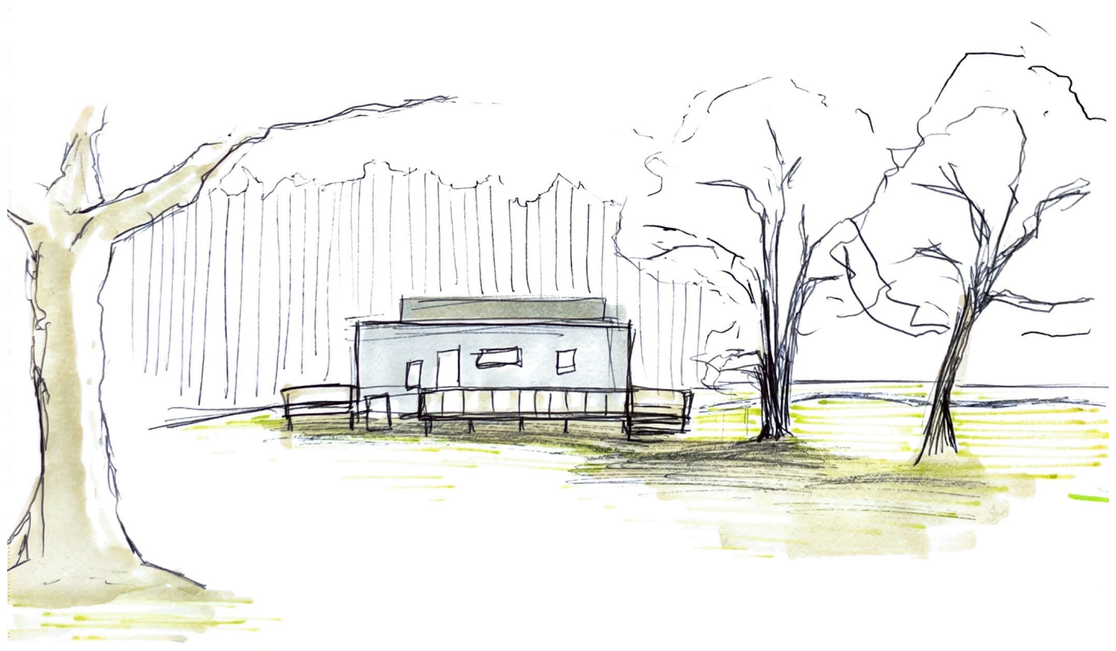
- Flooding
- Leaf house has to stay, somewhat connected to the other building, I suggest where a new structure will go

Peter May

- Hearing
  - ↳ Cars / highway
  - ↳ Birds
  - ↳ Leaves rustling
  - ↳ Neighbor's dog
- Feeling
  - ↳ Calm
  - ↳ At ease
  - ↳ Taking a deep breath

Seeing
- ↳ Cars, packed & on highway — Blocked pipe by road
- ↳ Pollution
- ↳ Open space
- ↳ Sun & Shade
- ↳ Mature trees
- ↳ Flowers
- ↳ invasive vines
- ↳ Changing topography, divots
- ↳ Lizard sunbathing
- ↳ Demonstration Garden
- ↳ Cover water system
- ↳ Feathers floating in wind
- ↳ Little stream or creek
- ↳ Storm damage
- ↳ Mounds
- Left hole
- ↳ Migration hog wetland

Smelling
- ↳



what will I be in this space
What's my story

Image: Caleb Austin, LARC S2023

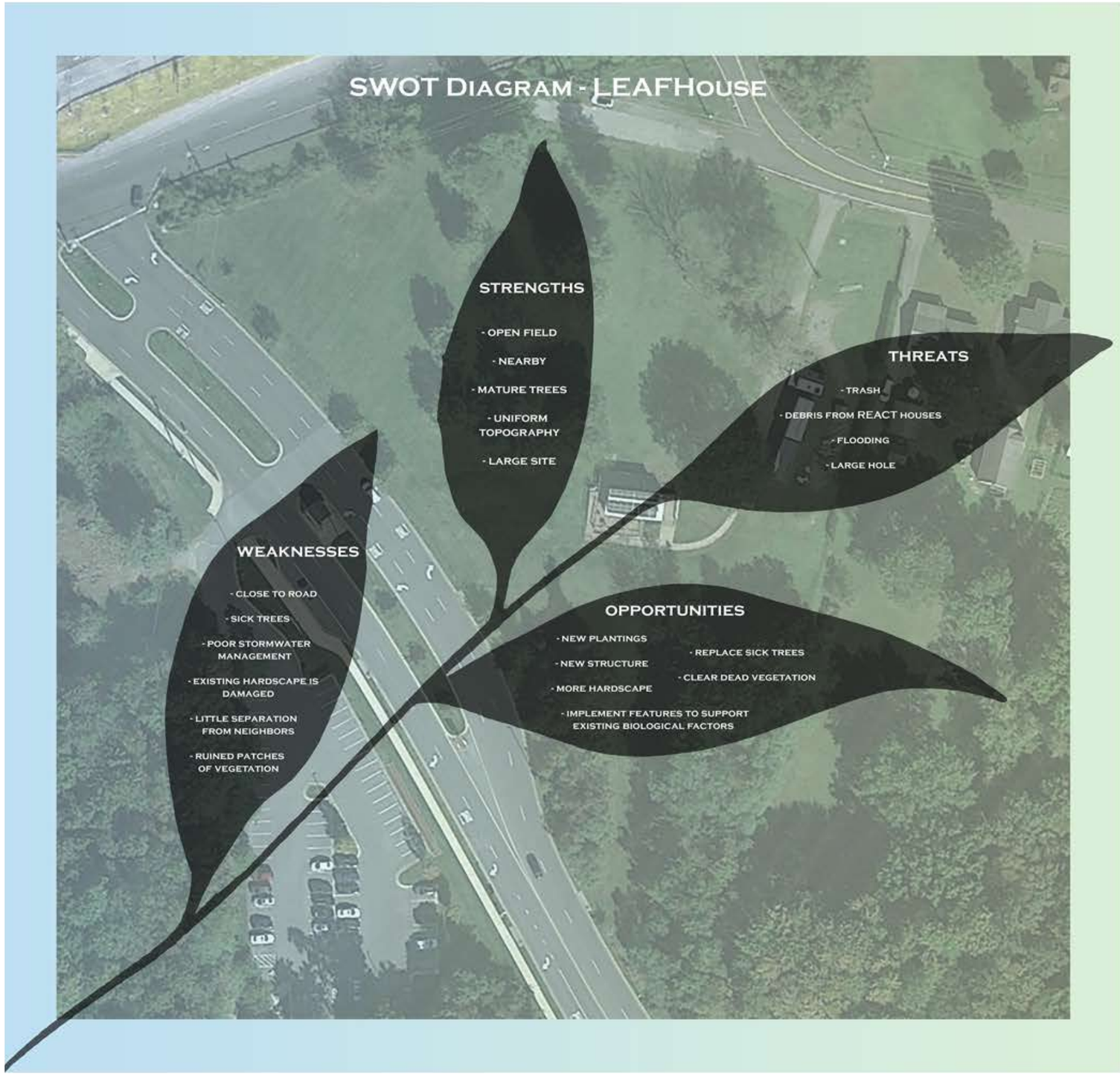
SWOT Analysis

This Page:
Isabella Barresi
LARC 240

Opposite Page:
David Phan
LARC 240

A SWOT Analysis documents a site's Strengths, Weaknesses, Opportunities, and Threats. SWOT Analyses can dovetail with Site Analysis to demonstrate knowledge of the site and help the client understand the site through a combination of graphics and text.

The Assignment: After conducting Site Inventory in groups, students created SWOT Analysis diagrams. Each student used a combination of text and graphics to convey their understanding of the site.



Strengths

1. Huge Site to work with
2. Minimal Noise Pollution
3. **Existing Structures to Anchor Vision**
4. Variety of Softscape and Vegetation

Opportunities

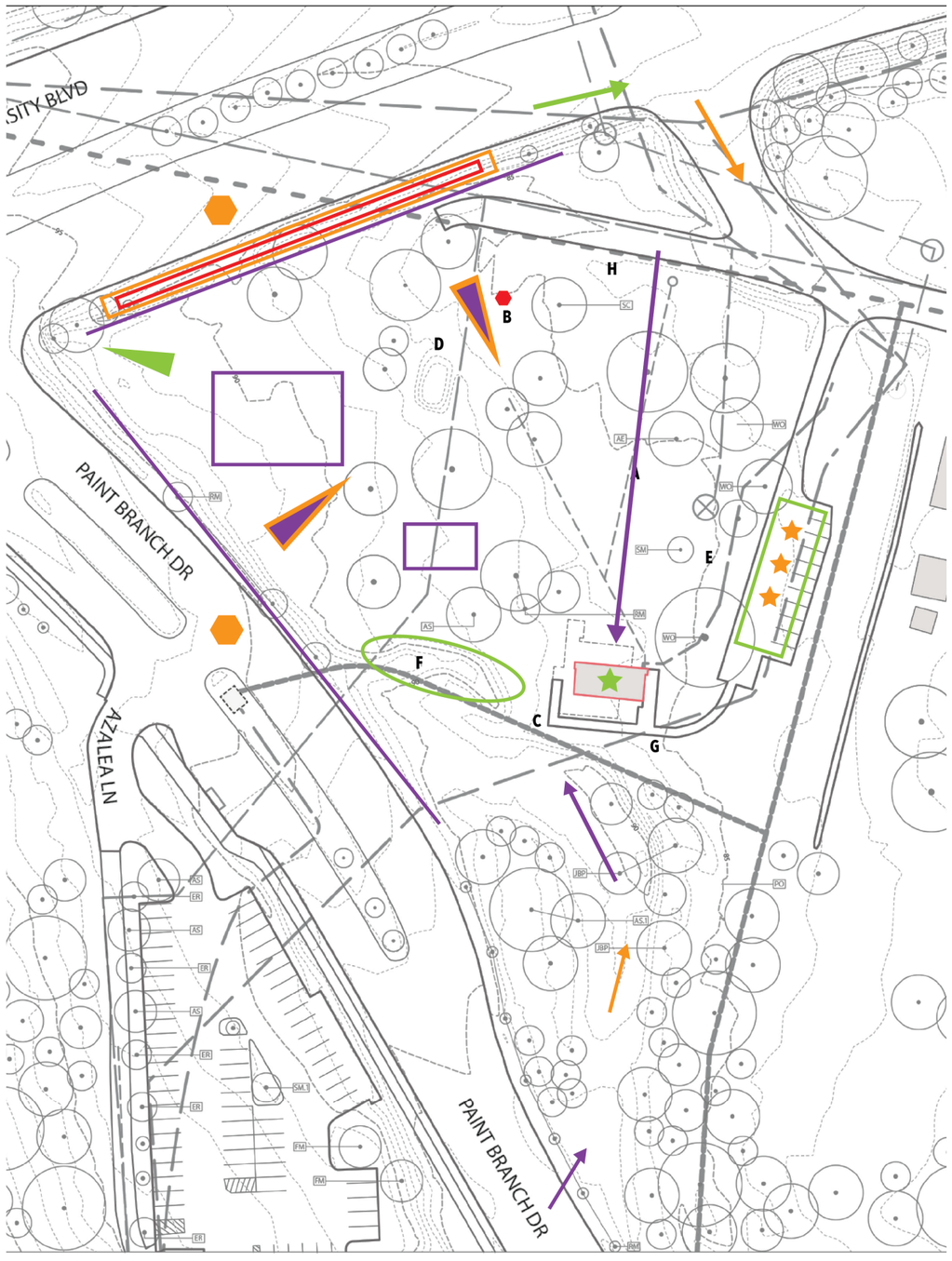
1. New Structure, reACT House relocation
2. **More hardscape to site**
3. Foundation of former structure
4. Connection to campus from site

Weaknesses

1. Parking Limited
2. Isolated from UMD Campus
3. **Condition of reACT House**
4. Contour can get very bumpy, hard for people to walk

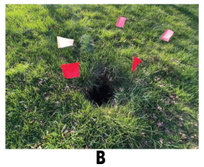
Threats

1. Residential & Urban Development
2. UMD Campus Development
3. **Weather Damages**
4. Existing Well



LARC 240 - Solar Decathalon Site Analysis
SWOT Analysis
Alan LJ Shi

A


B

C

D

E

F

G

H

(S) - Strengths

Listed Buildings
- Solar Decathalon house

Streetscape
- Easy road access from University Blvd

Views
- View from north to south side is ideal

Infrastructure
- Existing parking lot and pedestrain pathway leading to decathalon house

Enviornmental
- Lots of mature trees

Open Space
- Sunny & shaded areas on site
- Large landscape for development

Topography
- Existing berms that create physical and visual barriers between site and street
- Mostly flat terrain for development

(O) - Opportunities

Views
- Buffer street and site with berms or vegetation

Infrastructure
- Provide improved pedestrian walkways and crossings
- Provide improved vehicle access points

Enviornmental
- Buffer the noise pollution from adjacent roads

Open Space
- Provide high-quality open space able to host large events
- Introduce a new building to the landscape

Activity
- Provide uses that fulfil the needs of the local community

Topography
- Connect the site to its context to ensure an inclusive and accessible development

(W) - Weaknesses

Listed Buildings
- LEAF houses sitting on parking lot

Streetscape
- Awkward access points to site for pedestrains and vehicles

Views
- Minimal visual buffer between site and adjacent roads
- Minimal visual buffer between site and neighbors

Infrastructure
- City-maintained ditch

Enviornmental
- Noise pollution from surrounding vehicular traffic
- Large open space has little to no wind screens

Activity
- High traffic areas surround the site

Topography
- Semi- bumpy terrain

(T) - Threats

Listed Buildings
- LEAF house storage poses safety risks

Infrastructure
- Ditch on north side is poorly maintained by the city

Enviornmental
- Deer browse vegetation
- Soil quality is low

Topography
- Giant hole poses safety risk

SWOT Analysis

Opposite Page:
Alan Shi
LARC 240

This Page:
Caleb Austin
LARC 240

STRENGTHS

- Green space
- Tree canopies
- Large site
- Secluded
- Wildlife
- Existing structures
- Near campus entry

WEAKNESSES

- Proximity to high-way
- Edge of campus
- Poor drainage
- Deer pressure
- Accessibility
- Lacks of use

OPPORTUNITIES

- Integrating site with campus
- Using indigenous knowledge
- Educational opportunities
- More hardscape

THREATS

- Diseased trees
- Flooding
- Storm damage
- Potential development
- Selling the land
- Lack of security

Image: Naomi Sachs , LARC S2023

03
Storytelling

Storytelling is an important part of Indigenous culture, including among the Nanticoke and Piscataway in the region.

Assignment: Students were asked to "assume the presence of another living being that inhabits the site at least part-time. It can be large or small, flora or fauna. For example, you could be a tree (be specific about which tree), a vine, a blade of grass, a bee, a butterfly or moth, a hawk, a bluejay, a fox, a squirrel, a racoon, a deer, an ant, a spider, a frog, a nematode, a worm--just not a human being. Tell a story from your being's point of view. Don't try to "mimic" a Native American story or voice, just use your own voice/the voice of your chosen being to tell a story. Don't overthink it. Just tell a story. It could be a story of the day, of the year, of the site that is not time-based. Who and what do you interact with? What do you do? What do you think about or feel? What do you eat? When are you most active? What scares you, what makes you feel safe? Feel free to add images in addition to your narrative. You could also tell your story as a poem." Students were encouraged to add an image to their story.

Tree on Site & Nuthatch

Image: Wyatt Howell , LARC S2023

Image: Nuthatch, unsplash.com

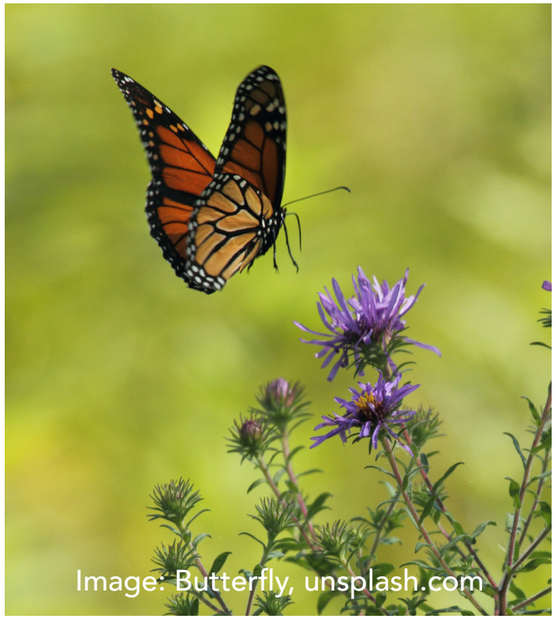


Image: Butterfly, unsplash.com

More Pollen More Problems, Nathan Temesgen

Man, the flowers have just started to bloom which means I am eating soooo good. Since I became a butterfly last week, life has been good. It was really cold literally 2 days ago but now the jungle of flowers has bloomed and I'm getting that upper-class nectar out of it. These giants are kinda scary sometimes, I saw a group of giants surround the area and I had to try and blend in with the flowers because with their size, there's no telling what they'll do. AND I haven't even mentioned birds trying to eat me yet. But man, my schedule is packed for the next week, I got-ta find a mate in the next few days and I haven't been getting any matches on Flutter so I guess I gotta find a mate the old fashioned way. I mean I don't know what I'm missing. I make sure my wings look good, I live in a nice bush, nectar is never an issue and I produce a lot of pollen. I guess I just have to be patient and wait for my mate, a week is a lot of time after all, she'll come in due time. I'm sorry for being all over the place with this letter, it's just this giant has been staring at me for a while now. I wonder what it does when I don't see it. I doubt it's anything in-teresting or important. I mean, what could they be doing that's more important than pollinating flowers? Anyways, I gotta get back to work, I just picked up a scent on another patch of flowers!

Unfamiliar Ground, Caleb Austin

Amidst the trees and grassy lawn,
A yellow dandelion had been born,
A non-native flower, some would say,
But to the pollinators, it was a welcome stay.

Season after season, it spread its seeds,
Across the land, it had no needs,
A highway nearby, but it didn't care,
As it had found a home here and there.

The mature trees provided high shade,
As cars passed by on the highway's parade,
But the dandelion remained steadfast,
Spreading its roots, making its mark to last.

Pollinators came to visit, one by one,
Sipping on nectar, then off they'd run,
To spread the dandelion's pollen far and wide,
In a world that was constantly changing its tide.

Some may say it doesn't belong,
A non-native that Europeans brought along,
Nevertheless,
It's roots dug deep, firmly anchored and wound
For it had made a home in unfamiliar ground

Image: Dandelions, unsplash.com

Bees & Cherry Tree on site

Image: Bees, unsplash.com

Image: Naomi Sachs, LARC S2023

Image: Woodthrush, unsplash.com

A Life of a Wood Thrush, Grazelle Giray

Winter is coming and it's time for me to move down to the South through the Atlantic Flyway. All I see are glass buildings and impervious surfaces, there is nowhere for me to rest. I finally land on a small bush and my stomach starts to rumble. I look around for food but there is nothing for me to eat. How can I regain my energy? I looked through the trash and eventually got to some scraps. But now I am dirty and need a bath. There are no bird baths large enough and I am afraid to get a disease. I eventually get to a puddle in a ditch on the road. I finally regained a bit of energy to fly back down. I see a lush garden next to some busy roads. I landed and saw a large moving water feature, it was beautiful. I fly around the site and the gardens have so many layers, there's a safe place for me to stay for the night. The flowers smell beautiful and there is a plethora of berries, seeds, nectar, and insects. I feel like I could raise a family here. The only downside is all the noise. I am going to recommend this area to all my friends and it will be the go-to spot. I hope there are more areas like this.

A Butterfly Life, Lili Francisco

After a long night of resting on the sweetgum leaves, I woke to a warm and sunny day. Spring was finally here and the flowers were blooming. I stretch my wings and begin a long day of pollinating some plants. As I make my descent into one of the flowers, I admire the large field of grass and small pops of colors. I land on the flower and start drinking its nectar. What a perfect way to start my day! As I drink the flower's nectar, pollen starts to attach itself to me. I then start moving on to my next flower and as I drink more nectar, the pollen I was carrying transfers onto it. While drinking more nectar, I look around and notice many bees in sight today. Once spring begins, it is always busy for both of us. I say hello to my friend Barry as we cross paths. Us butterflies and bees are always helping one another out!

After a stomach full of flower nectar, I begin my daily flight around the place I call home. Today there is a group of humans visiting. I do not mind having them around as long as they are friendly. I am feeling confident so I want to land on one of their arms. I am a little frightened because I am not sure how they are going to react, but it seems to be paying off because the taste of the sweat on their skin is so good. I take a couple more flights around and make some stops so that I do not get tired. Flying can be very difficult for me, especially with the wind. As the day starts to come to a close, I decide to watch the sun go down. Before calling it a day, I drink more flower nectar and help more flowers pollinate before nightfall. I then fly to my home, the sweetgum tree, and choose a leaf for the night. I hang upside down and start to finally rest after a tiresome day, knowing tomorrow will be another day and another great adventure.

Image: Butterfly, unsplash.com

Maple Tree

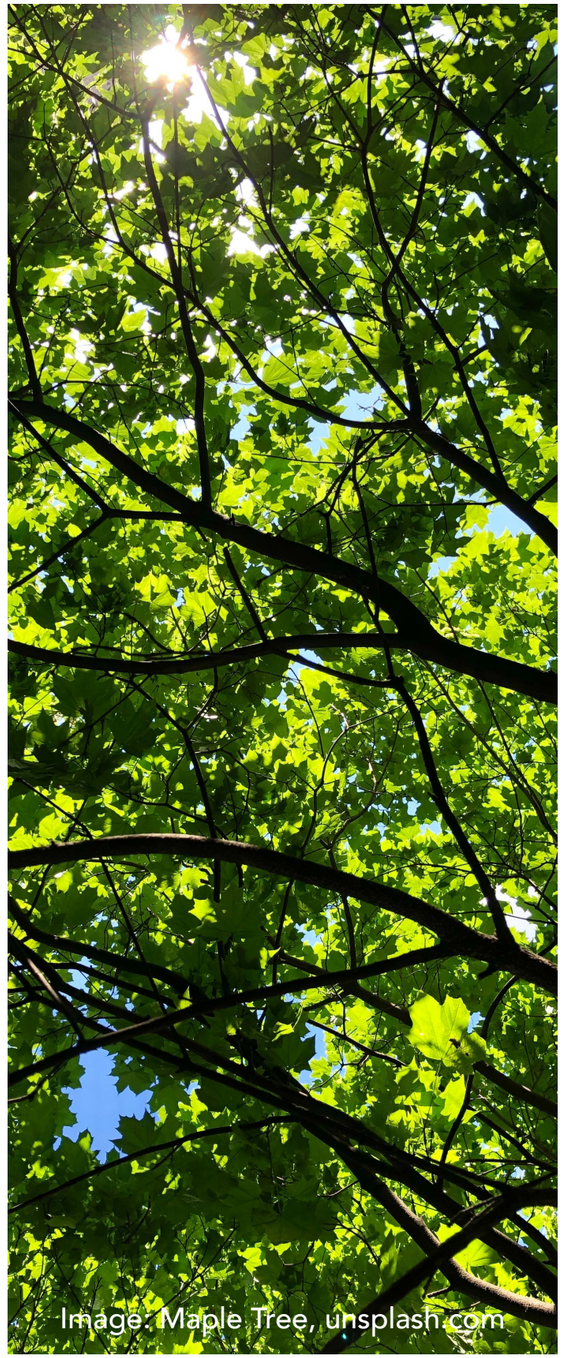


Image: Maple Tree, unsplash.com

Grasses on SIte & Hedge

Image: Caleb Austin, LARC S2023

Image: Hedge, unsplash.com

Hawk & Fox

Image: Hawk, unsplash.com

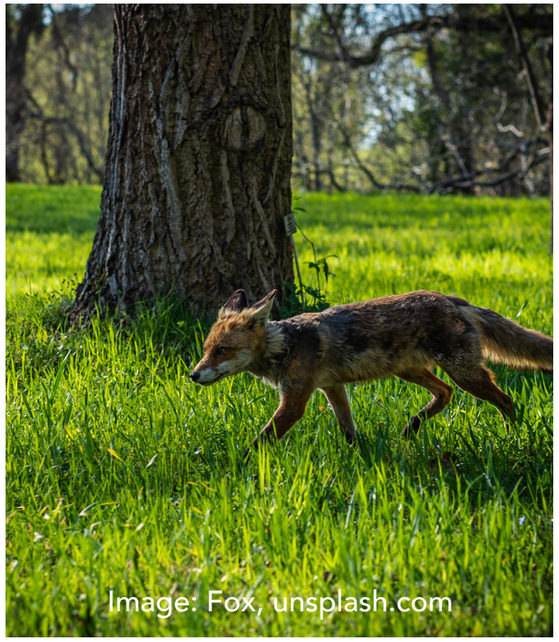


Image: Fox, unsplash.com

The Willow Oak, Calvin Hruby

I am a willow oak tree, standing tall and proud in the heart of the site. I have watched the world around me change and evolve, yet I remain a constant presence, a steadfast witness to the passing of time. Through the seasons, I witness the comings and goings of the creatures that call this site home. In the spring, I see the birds build their nests, the squirrels playfully chasing each other through the branches, and the bees buzzing about, collecting nectar from my blossoms. In the summer, I provide a cool, shady refuge for the animals seeking relief from the scorching sun. The leaves on my branches rustle gently in the breeze, providing a soothing sound that lulls the creatures of the forest into a peaceful slumber. As fall approaches, I watch as the leaves on my branches transform into brilliant shades of red, orange, and
yellow. The site is blanketed in a tapestry of fallen leaves, providing a feast for the insects and small mammals that call the site home. And as winter settles in, I stand alone, my branches bare and my
leaves gone. Yet even in my dormancy, I am not truly alone. The snow falls gently around me, creating a soft, peaceful silence that envelops me like a warm embrace.

Image: Caleb Austin , LARC S2023

Oriole & Raccoon

Image: Oriole, unsplash.com

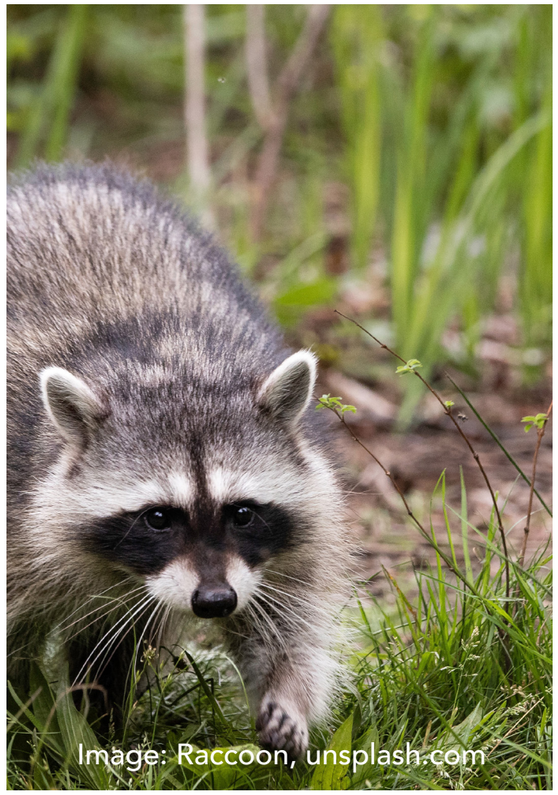


Image: Raccoon, unsplash.com

Frog & Deer

Image: Frog, unsplash.com

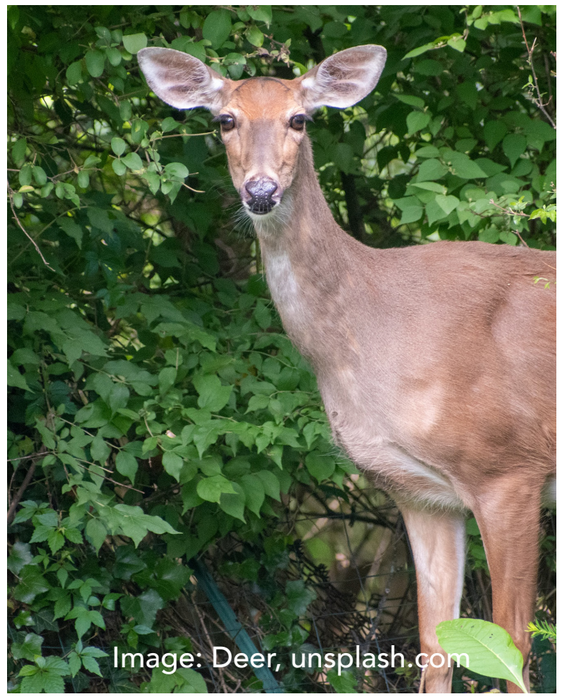


Image: Deer, unsplash.com

Image: Naomi Sachs, LARC F2022

04
Design: Concept Diagrams

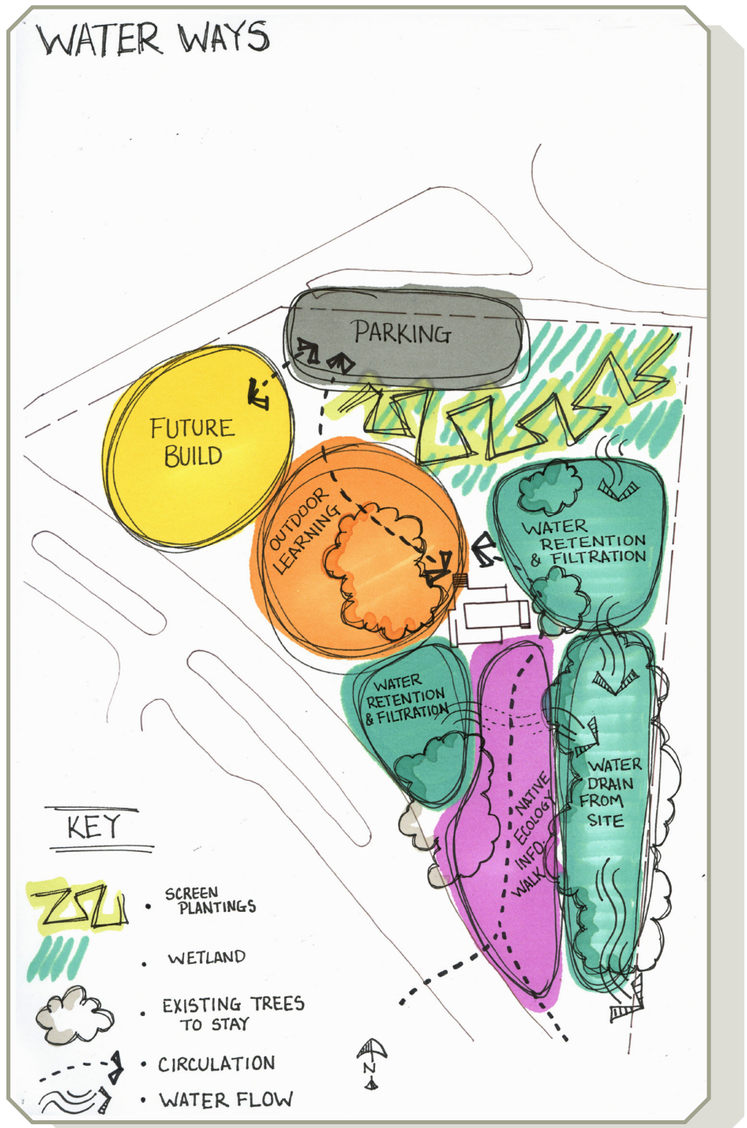
Concept Diagrams

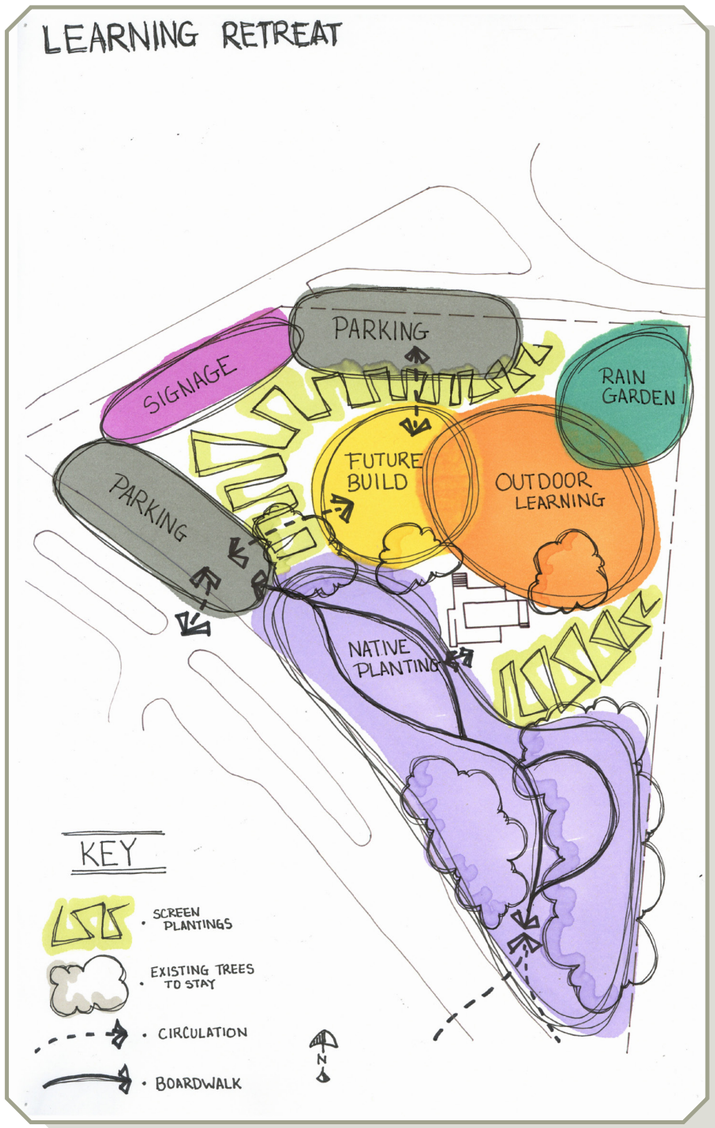
Concept Diagrams are a way to explore a variety of ideas before the designer commits to one that they will develop further. These diagrams are also a way for the client, and others in the office, to better see and understand the designer's thought process.

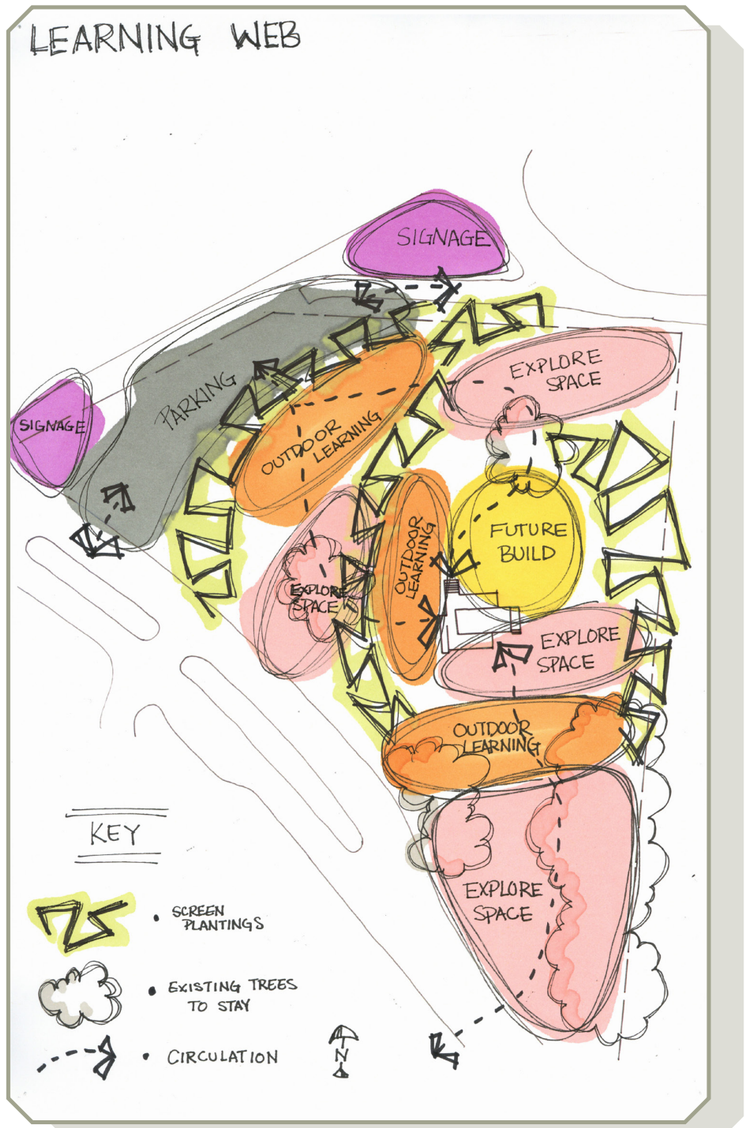
Assignment: Students created 2-4 Concept Diagrams for the site which they presented at the Mid-point review. Students were encouraged to create three quite different design concepts–for example, rectilinear, curvilinear, and organic or using different themes.

Concept Diagrams

Elliott Kenney
LARC 640

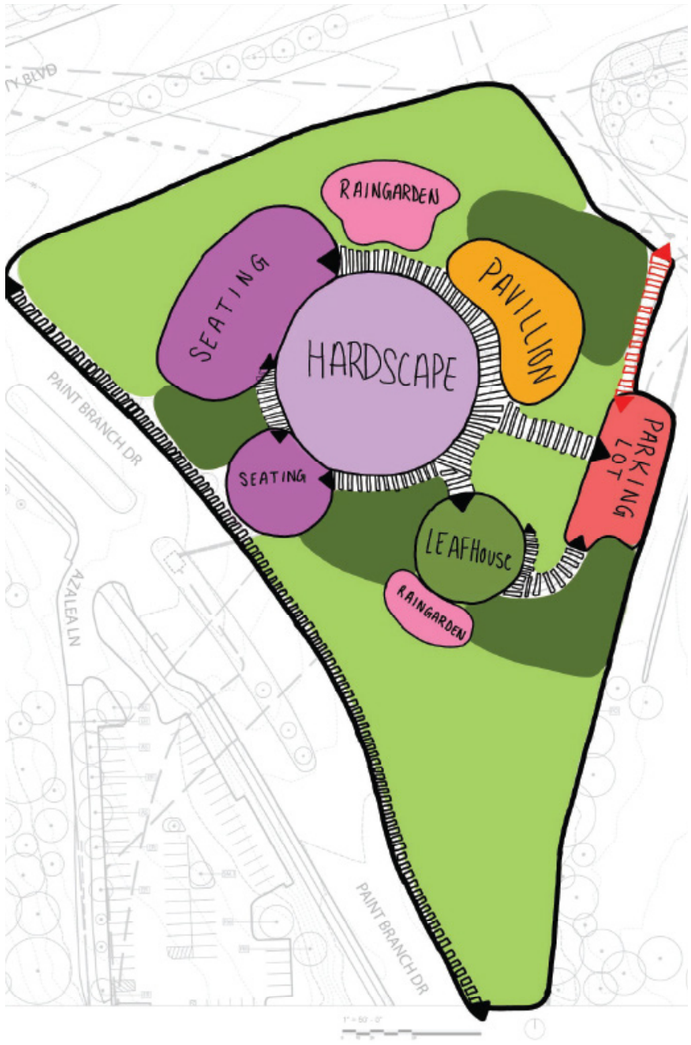


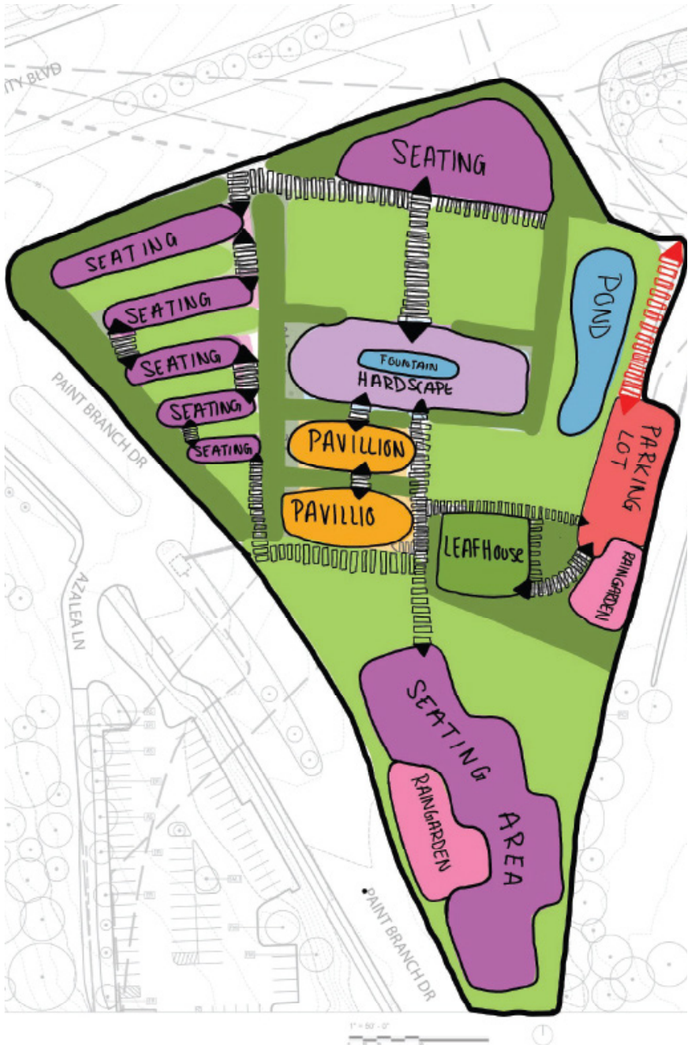


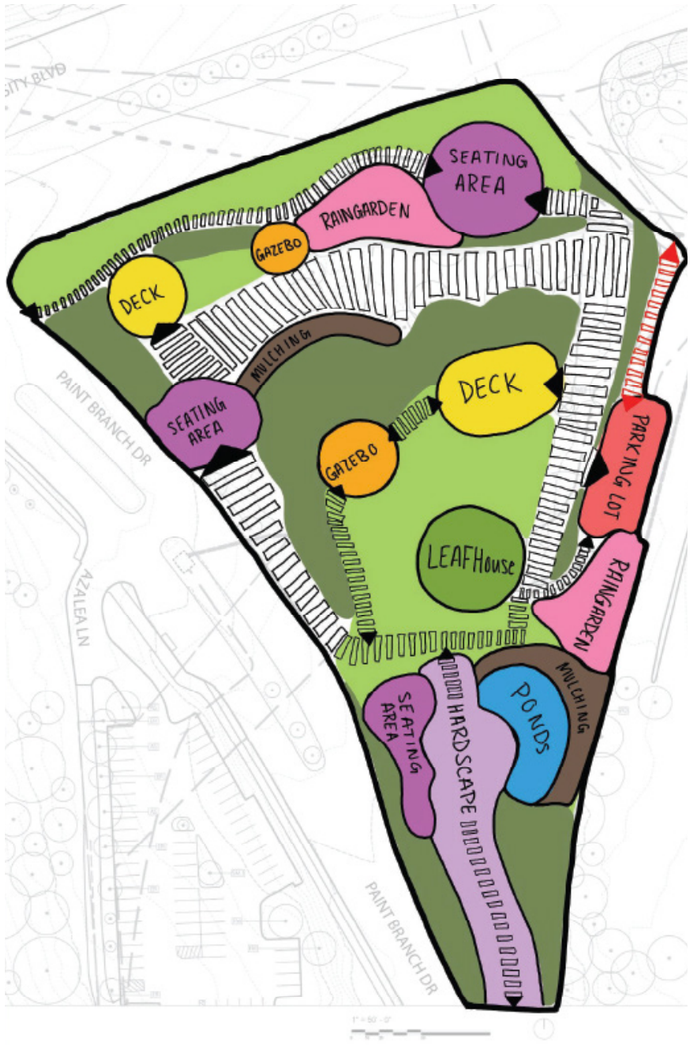


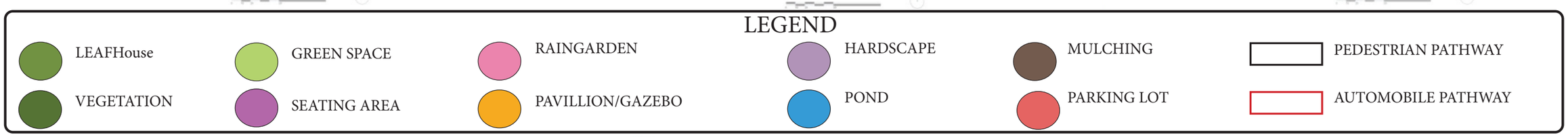
Concept Diagrams

Tiara Rachman
LARC 240



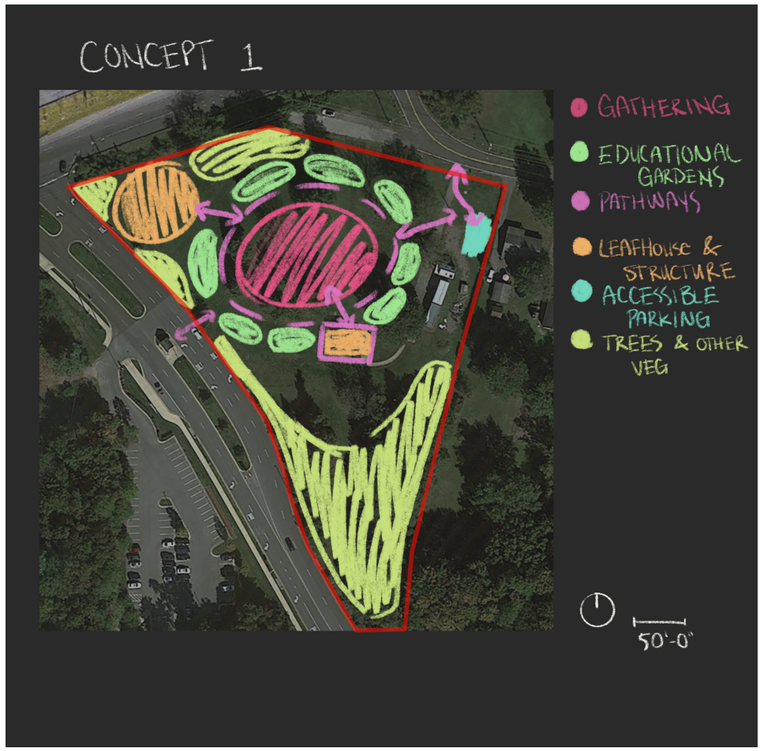


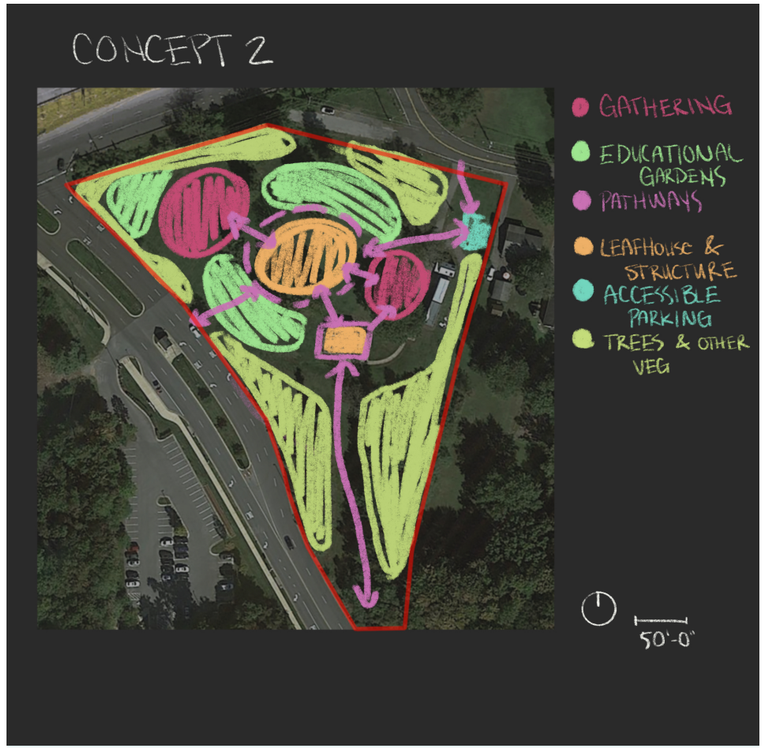


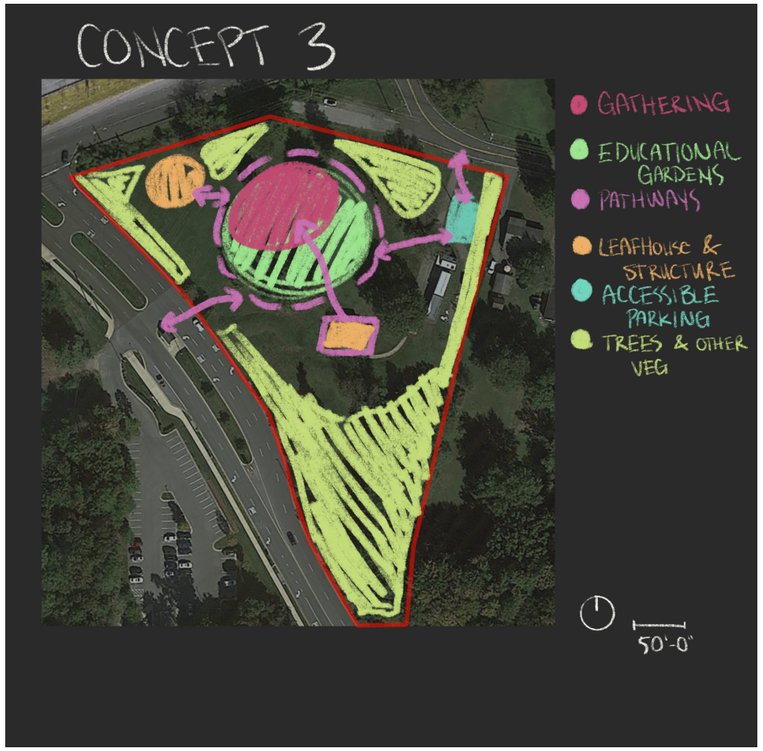


Concept Diagrams

Isabella Barresi
LARC 240

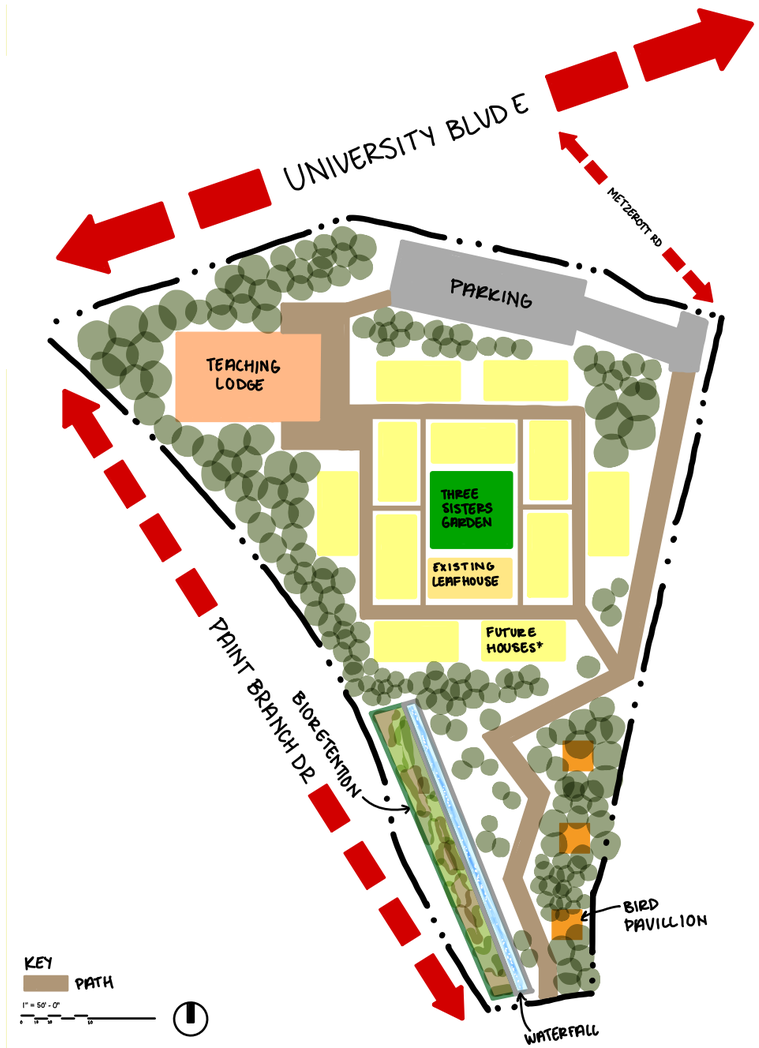


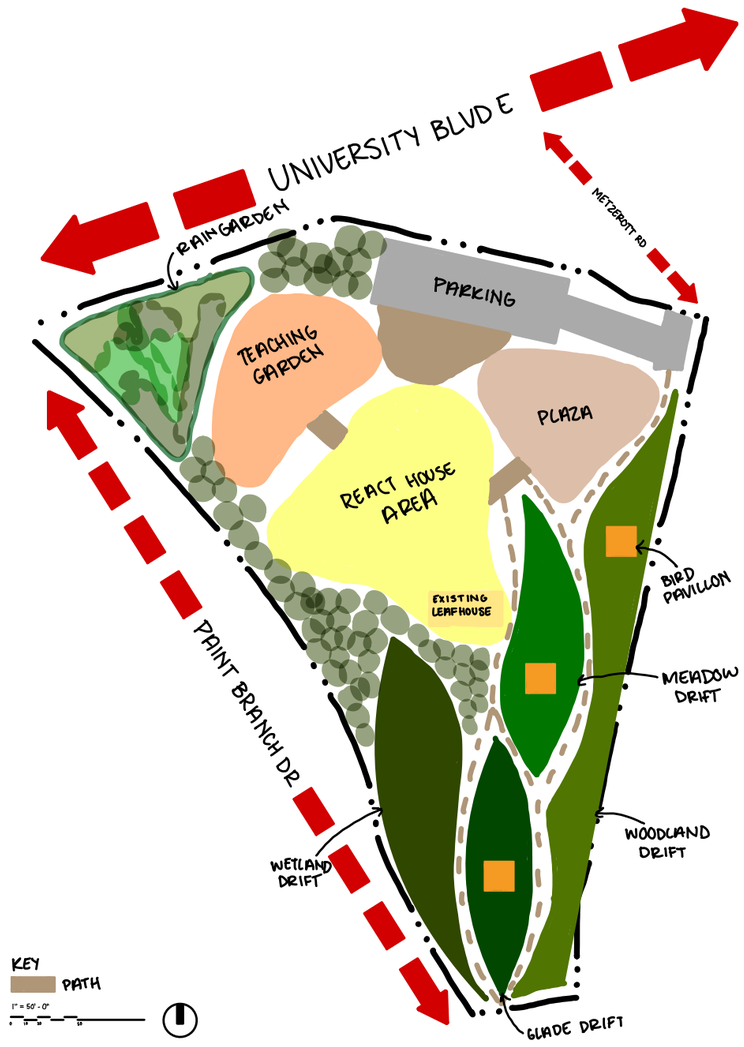


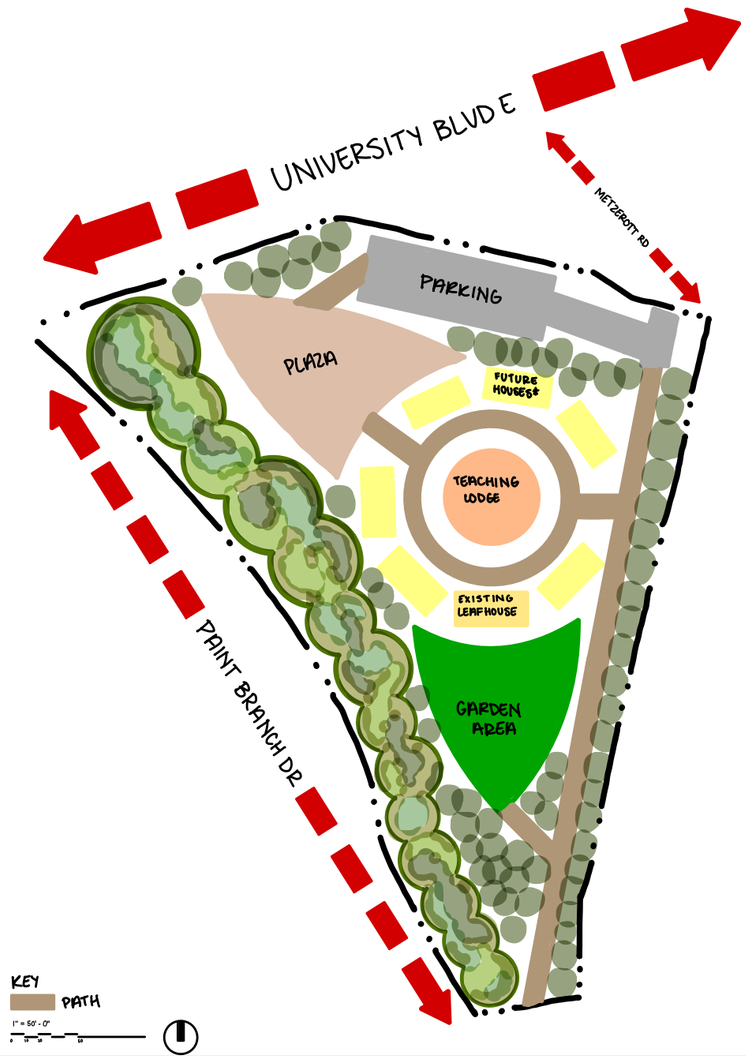


Concept Diagrams

Grazelle Giray
LARC 240

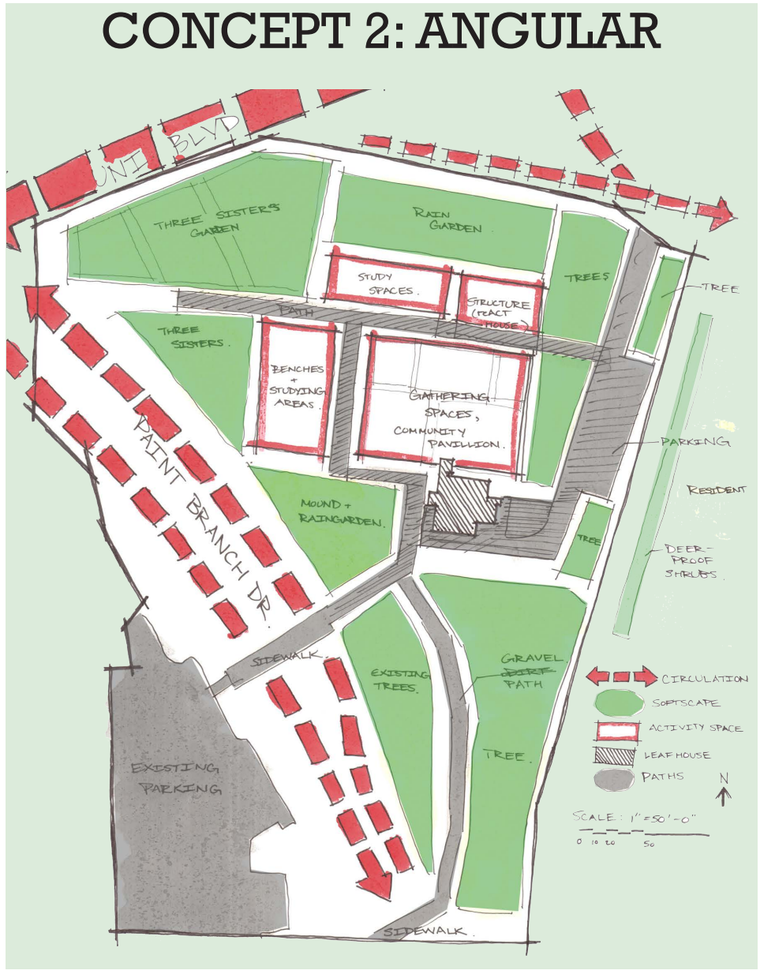


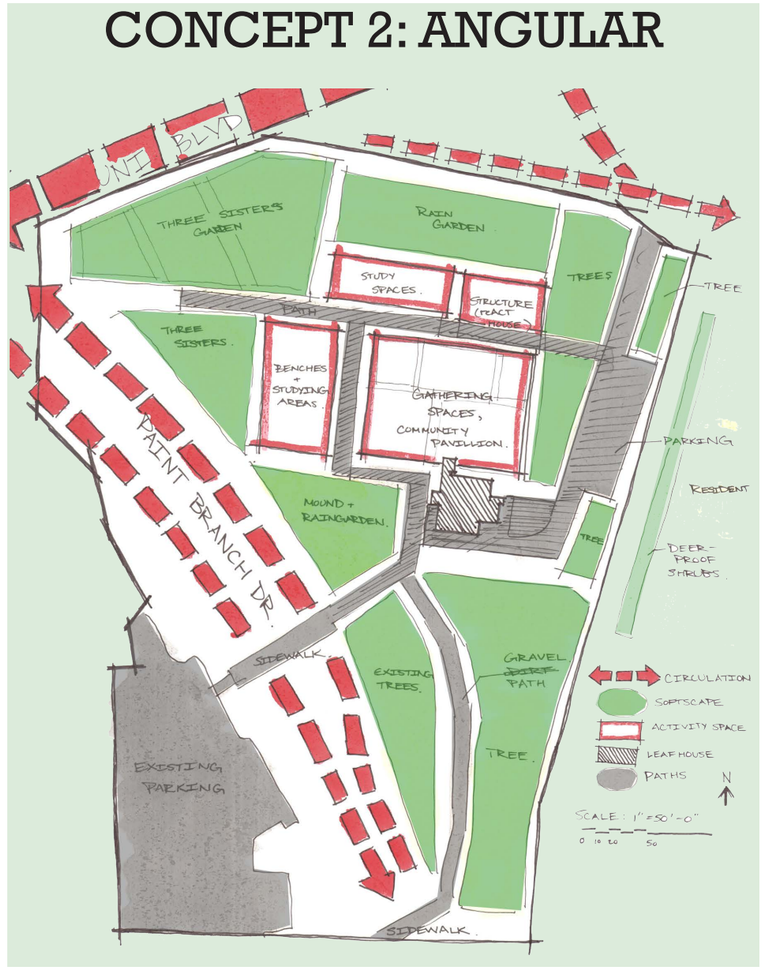




Concept Diagrams

David Phan
LARC 240





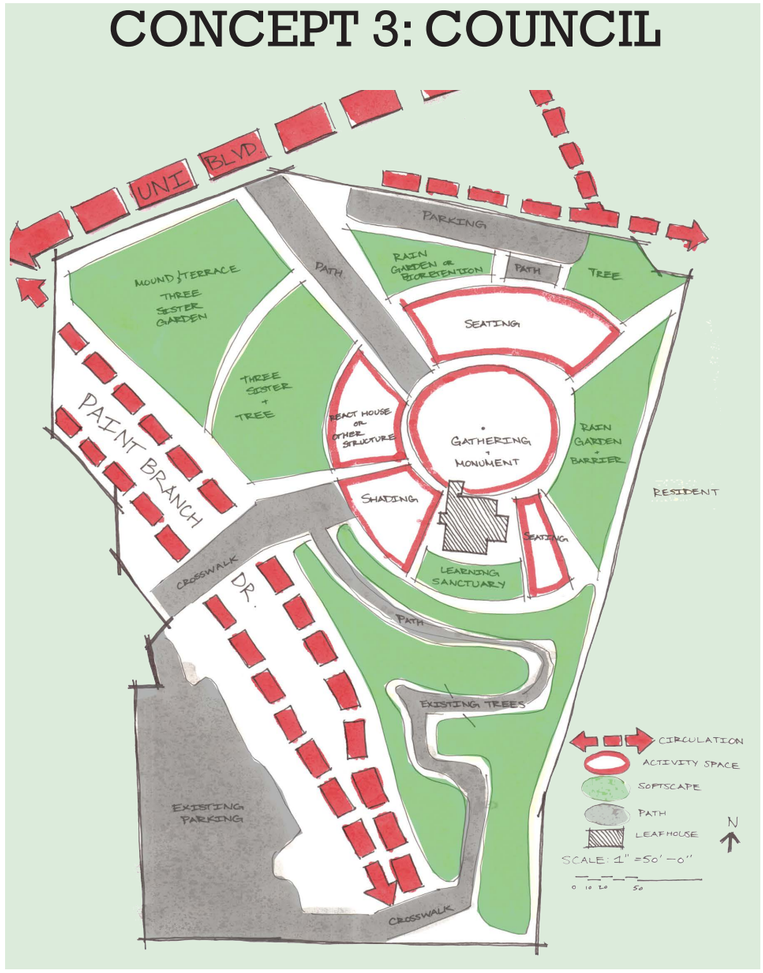


Image: Caleb Austin, LARC S2023

05
Design: Graphic Elements

Design Program

The Design Programs for LARC 240 and LARC 640 were very similar. LARC 240 students were also given a client and backstory: "Our client for this project is the University of Maryland. UMD would like to expand upon the current Solar Decathlon site as a living 'sustainability lab' where students and faculty can learn, explore, and celebrate ideas around sustainability, resilience, and regenerative design. In brainstorming, words they came up with include 'learning, demonstration, exploration, sharing, celebration, creativity, health, diversity, equity, inclusion, innovation, collaboration, and partnership.' As an acknowledgement of the indigenous people who originally lived on this land, UMD would like the design to reflect the Piscataway and other indigenous tribes in some way--it is up to you to determine how."

Design Program Elements (required)

- Employ facets of Indigenous Knowledge (IK) - these may or may not be visible to site users
- Propose a new name for the site that better represents the vision and goals of the TLTC grant
- Better integrate LEAFHouse with its site
- Propose a site for a second building (could be the ReACT House, a different building, or a proposed site for a building that has not been designed yet, such as Solar Decathlon winner #3) (LARC 240 only)
- Maintain or improve ADA (Americans with Disabilities Act) compliance, especially from the parking lot to the LEAFHouse
- Improve stormwater management, preferably using regenerative design and Artful Rainwater Design
- Consider ways students will actively engage with the site
- Use native plants whenever possible

Image: Caleb Austin, LARC S2023

Section Elevations & Perspectives

Eve Josar
LARC 640

Additional potential Design Program elements to consider (not required):

- Re-think the parking lot (location, design)
- Be respectful of neighbors, immediate and far away, upstream and downstream
- Consider the Seven Generations in all design
- Explore Universal Design (UD) potential
- Address how regenerative design maximizes health and well-being potential for ALL users of the site
- Propose a site for a second building or project (LARC 640 - this was a requirement in LARC 240)

Perspectives

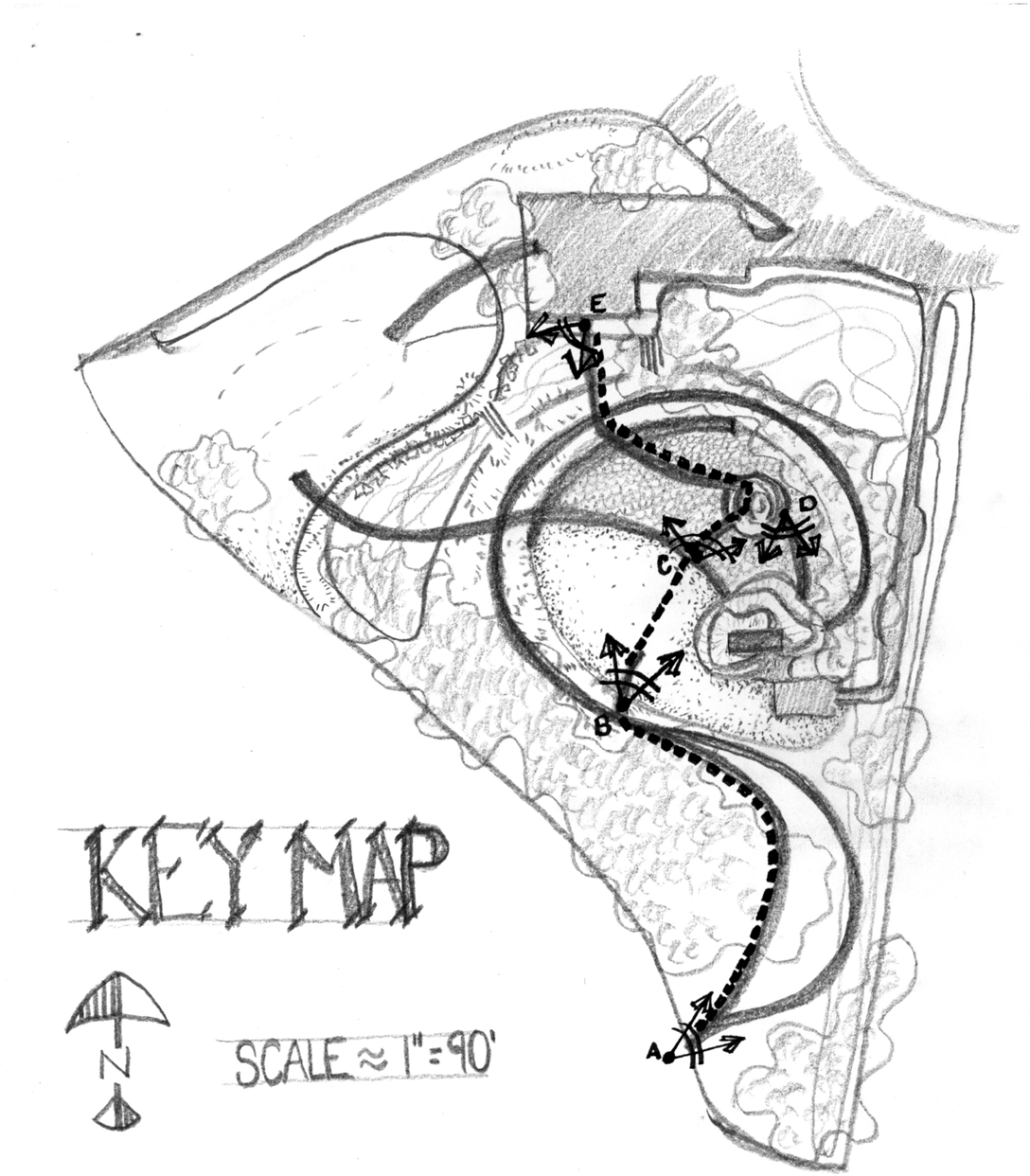
Lauren Hudson
LARC 640

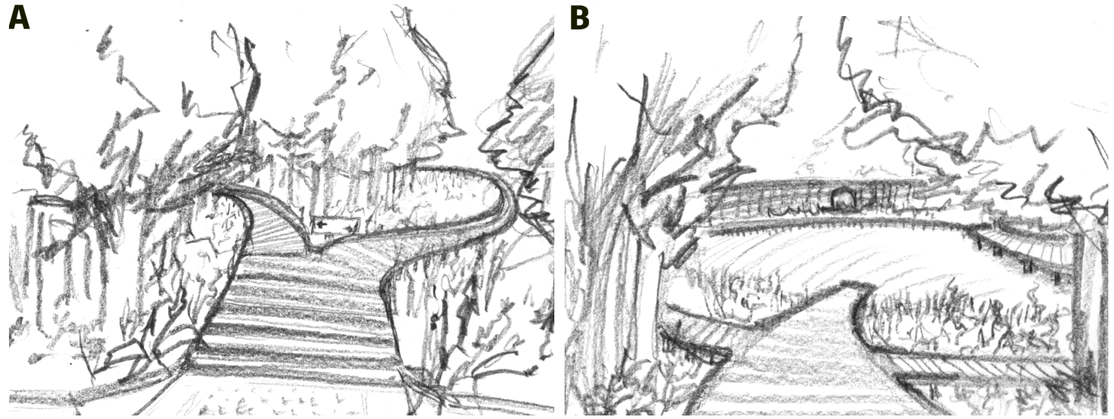
Plan Drawing

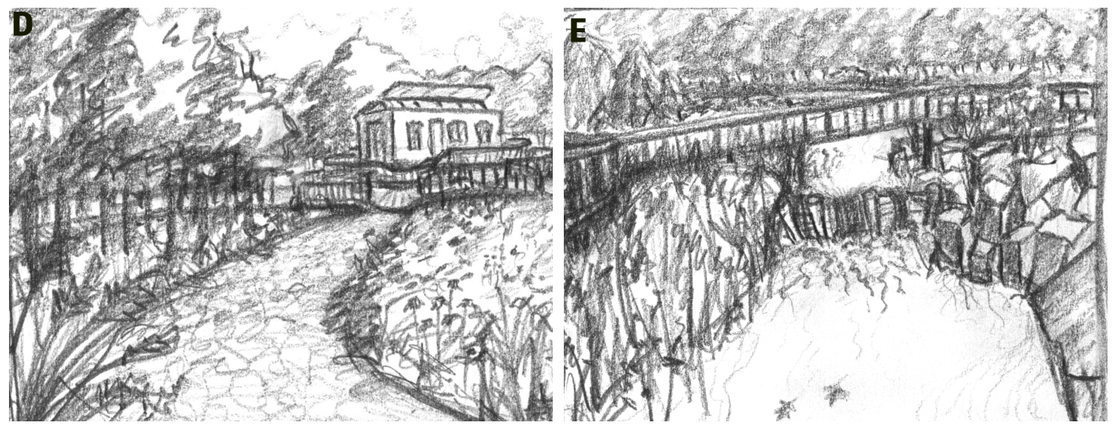
Gracie Guerrero
LARC 240

Plan & Perspective Drawings

Elliott Kenney
LARC 640





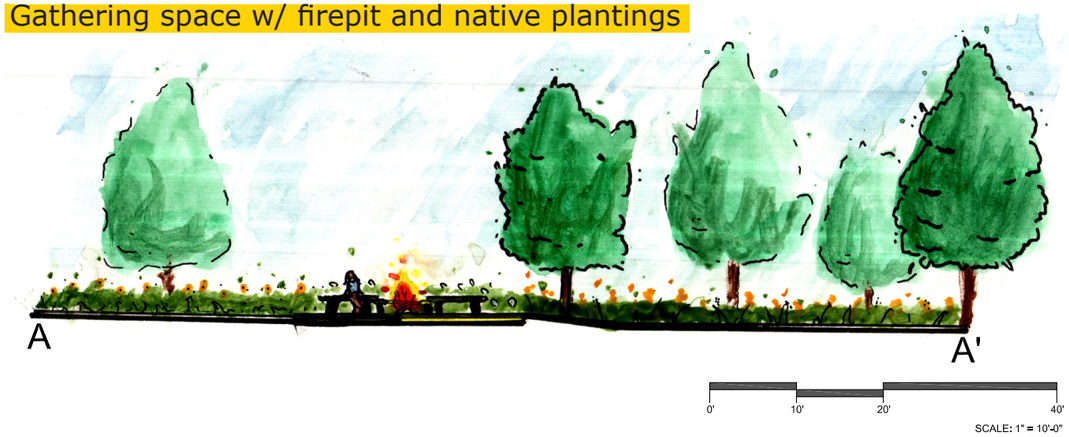


Plan, Section, & Perspective Drawings

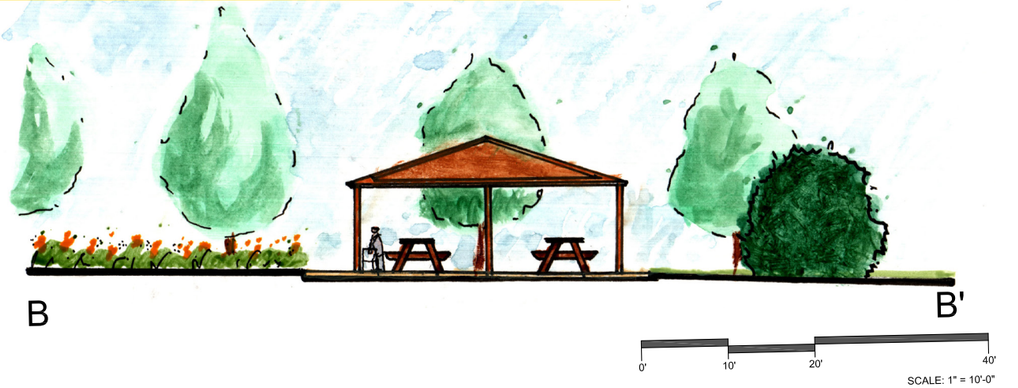
Stephanie Cavanaugh
LARC 640

Site Plan

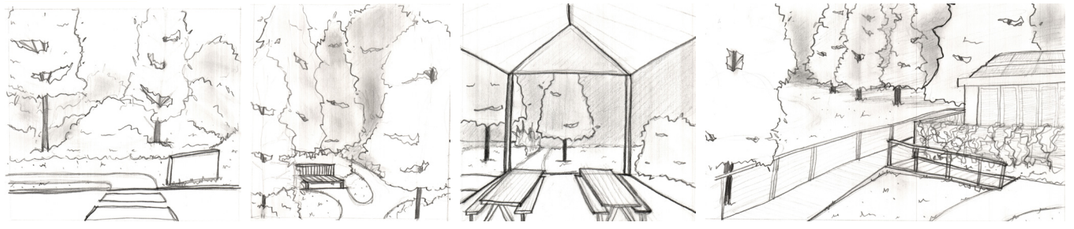
Gathering space w/ firepit and native plantings



Open air structure w/ screening and Soledego

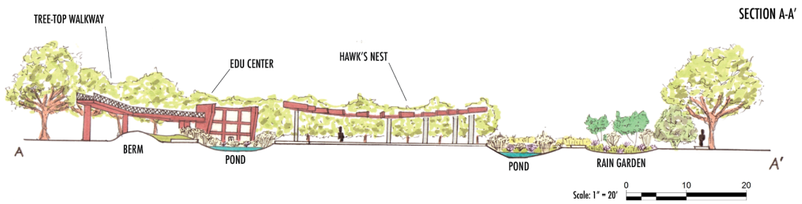


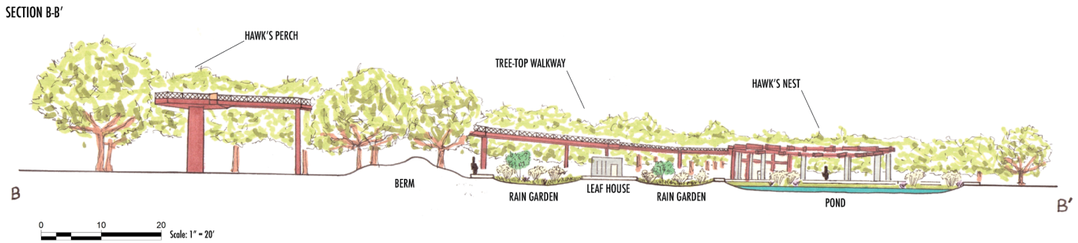
Sketches

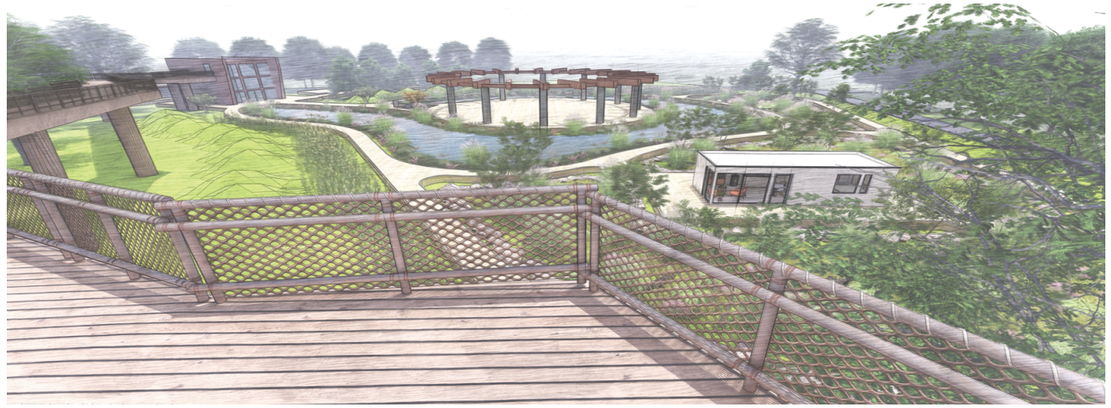


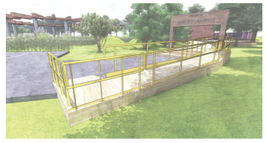
Plan, Section, & Perspective Drawings

Alan Shi
LARC 240









Plan, Section, & Perspective Drawings

David Phan
LARC 240

Plan, Section, & Perspective Drawings

Christina Le
LARC 240

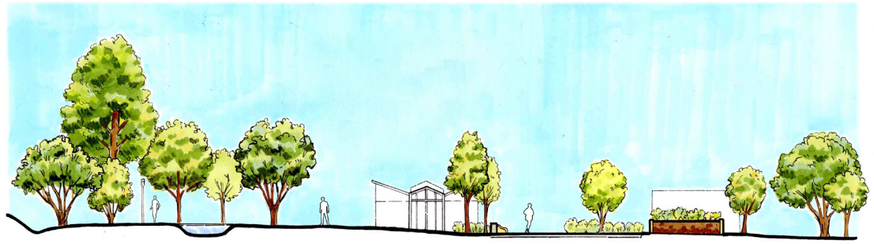
Overall Site Plan

Scale: 1" = 50'-0"

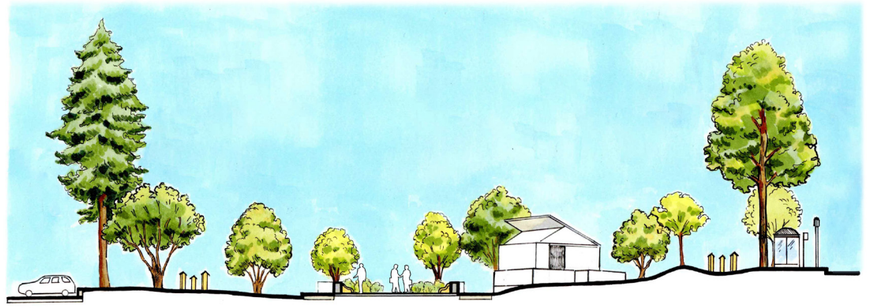
0 10 20 50

N

Section Elevation A - A'



Section Elevation B - B'



Scale: 1" =20'-0"

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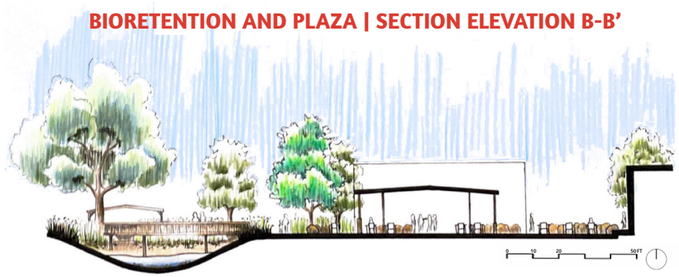
Plan, Section, & Perspective Drawings

Caleb Austin
LARC 240

RENDERED SITE PLAN



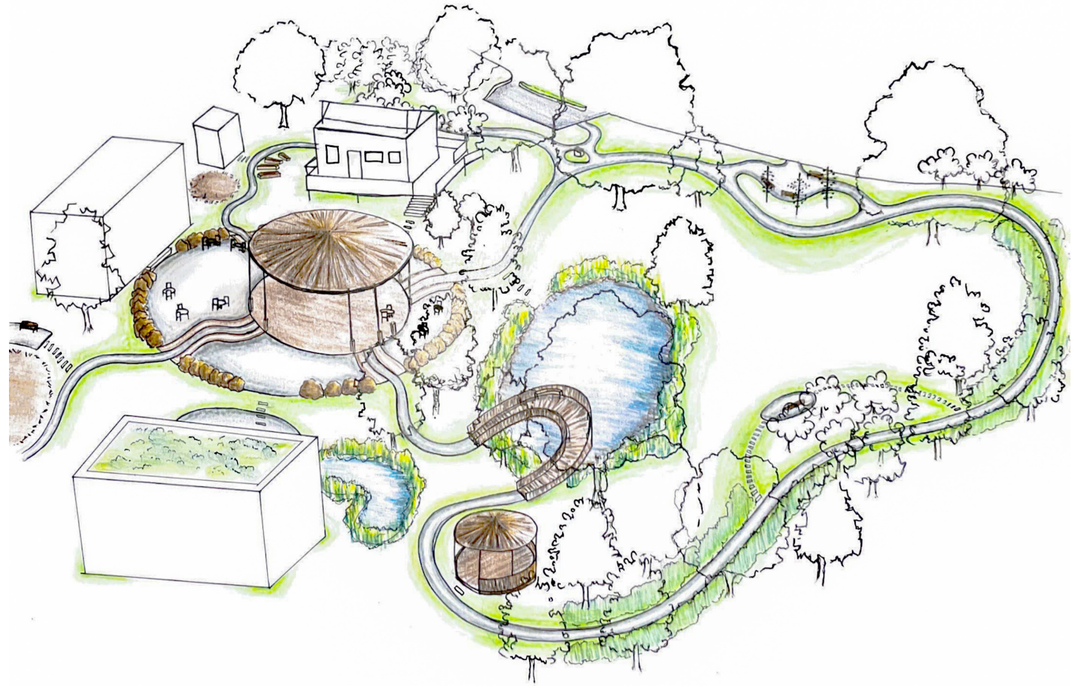


Image: Cattails, CC by 2.0

Image: Caleb Austin, LARC S2023

06
Design: Final Boards

LARC 640 Final Board Deliverables: Two 36" long x 48" wide landscape boards created with InDesign

Board 1: Research and Context (group board)

- Land Acknowledgement
- Approximately 50-word narrative about the project
- Overall project Design Program
- Description, preferably graphic/illustrated, of the meaning of "decolonizing education"
- Minimum three "context" images of the site
- Site Inventory diagrams & information

Board 2: Design (individual board)

- Land Acknowledgement
- Student's specific Design Program (vision, goals, objectives) in narrative with bullet points
- Site Plan at 1" = 50' rendered in watercolor pencil and labeled
- Two section elevations at 1" = 50' OR 2 section elevations of details at a larger scale (e.g., 1" = 20'), rendered in watercolor pencil and labeled
- Concept Diagrams from the Mid-point Review
- Minimum of 6 "inspiration images" (objects, materials, ideas, etc.)
- Any additional sketches, notes, etc. that demonstrate the design process

LARC 240 Final Board Deliverables: Two 36" long x 48" wide landscape boards created with InDesign

Board 1: Research and Context

- Land Acknowledgement on either 1st or 2nd board
- Approximately 50-word narrative about the project
- Overall project Design Program
- Minimum of three "context" images
- SWOT diagram and any other Site Inventory information
- Three Concept Diagrams

Board 2: Design

- Site Plan at 1" = 50' rendered in marker (colored pencils optional) and labeled
- Two section elevation details at 1" = 10' or 1" = 20' rendered in marker (colored pencils optional)
- Minimum of 1 perspective using hand drawing, Photoshop, Sketchup, or a combination
- Minimum of 6 "inspiration images" (objects, materials, ideas, etc.)
- Any other sketches or notes that demonstrate the process leading up to the final design

Image: Caleb Austin, LARC S2023

Final Board

Eve Josar
LARC 640

OVERALL VISION:
A space for students and extended community to gather and recharge, host events, give presentations on sustainable foraging, grain harvesting, and our place in nature.

DESIGN PROGRAM:
Honor indigenous knowledge and culture
- -Spaces for teaching workshops, foraging, crafts
- -Respectful foraging, native grains, 3 sisters
- -potential for pre-k "forest school"

Regenerative design
- -Stormwater management
- -Green screening
- -Maryland native plants
- -Regenerative farming practices

Create a welcoming and educational space
- -Universal design through ADA compliant boardwalks
- -Demonstration gardens and designated foraging areas, signs and QR codes

UNIVERSITY OF MARYLAND LAND ACKNOWLEDGMENT
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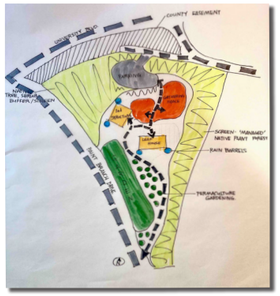
Eve Josar
LARC 640, Fall 2022
Professor Naomi A. Sachs, PhD

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

THE PLAN: "THE EXTENDED FAMILY"

INSPIRATION IMAGE SOURCES
1. https://www.ruralsprout.com/three-sisters-planting/
2. https://www.flickr.com/photos/twiga_269/3904168737/sizes/l/in/photostream/
3. https://www.anacostiaws.org/blog/harvesting-wild-rice-connecting-past-present-and-future.html
4. https://www.saatchiart.com/print/Photography-The-Oudolf-Field-03/1213469/8044431/view
5. https://bluestem.ca/living-willow-structures.htm
6. https://www.greatbigcanvas.com/view/florida-ocala-national-forest-trail-boardwalk-alexander-springs-to-clearwater-lake_2366222/
7. https://www.publicgardens.org/about-public-gardens/gardens/mercer-botanic-gardens
8. https://www.organicfacts.net/health-benefits/cereal/cattail.html

CONCEPT DIAGRAMS:



CATTAIL BOG

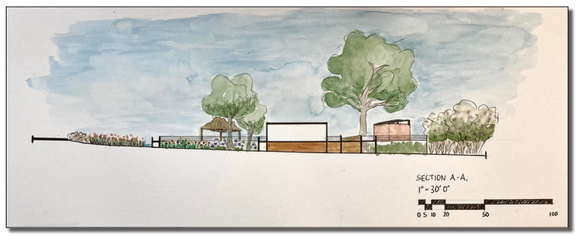
WILLOW TUNNEL

FIDDLEHEAD AND MUSHROOM FORAGE

LEAF HOUSE

SECTION ELEVATIONS:

NORTH FACING



NORTHWEST FACING

REGENERATIVE DESIGN OF SOLAR DECATHALON SITE USING INDIGENOUS KNOWLEDGE

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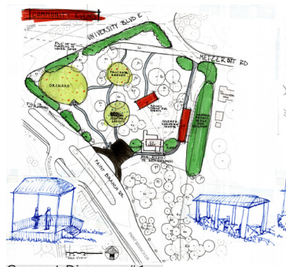
Program:
Vision: Revitalize site and increase accesibility for the local community of students, staff, faculty, and residents

- Preserve existing landscape
  - Keep and add to existing trees
  - Transplant younger trees along new construction
- Add access to site from Paint Branch Drive
  - Add cross walks to existing desire path
  - Add signage to site entrance
- Expand ADA access throughout the site
  - Make both doors of LeafHOUSE ramp accessible
  - Add handicap accesible parking

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE
Stephanie Cavanaugh
LARC 640
Naomi Sachs

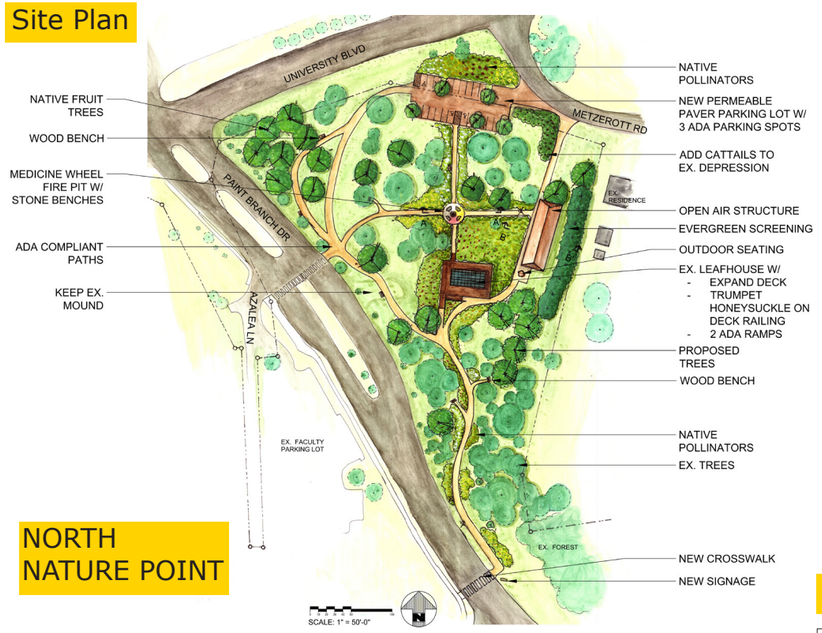
Concept Diagrams


Concept Diagram #1

Concept Diagram #2

Concept Diagram #3

Site Plan

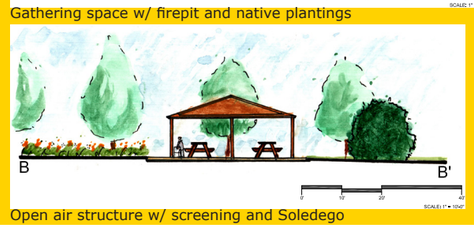


NORTH
NATURE POINT

Section A-A'

Gathering space w/ firepit and native plantings

Section B-B'



Open air structure w/ screening and Soledego

Inspiration:

Native American Medicine Wheel

White: White Turtlehead
Used to treat indigestion (1)

Black: Black Eyed Susans Used to treat colds (2)

Medicine Wheel (3)

Yellow: Solidago
Used to treat respiratory issues (4)

Stone Benches around firepit (6)

Red: Red Coneflower (Echinacea) Used to treat bites, stings (5)

Examples of orchard trees

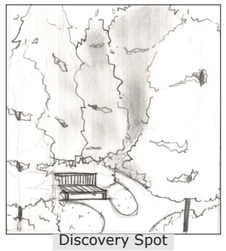
Crabapples (8)

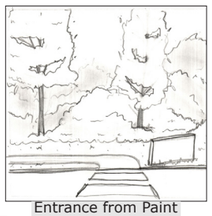
Open Air Structure (7)

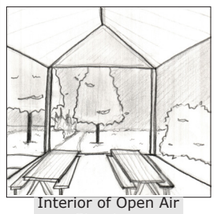
Persimmons (9)

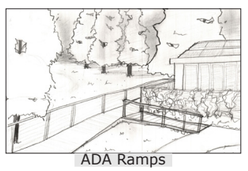
Pawpaws (10)

Sketches


Discovery Spot


Entrance from Paint Branch Drive


Interior of Open Air Structure


ADA Ramps

Sources:
1. https://www.usperennials.com/chelone-glabra-white-turtlehead/
2. https://www.gardendesign.com/flowers/black-eyed-susan.html
3. https://www.ictinc.ca/blog/what-is-an-indigenous-medicine-wheel
4. https://plants.ces.ncsu.edu/plants/solidago/
5. https://mtcubacenter.org/wp-content/uploads/2021/01/Balsom-sed070618_4776-1920x1012.jpg
6. https://www.athena-garden.com/benches/petrified-rock-bench/
7. https://blackwatertruss.com/products/blackwater-pole-barn-24x30
8. https://en.wiktionary.org/wiki/crabapple
9. https://www.britannica.com/plant/persimmon
10. https://en.wikipedia.org/wiki/Asimina_triloba

Final Board

Stephanie Cavanaugh
LARC 640

Final Board

Phoenix Morrison
LARC 640

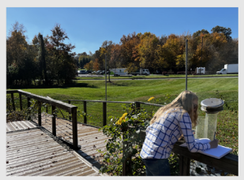
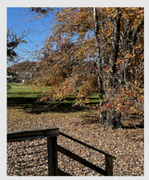
A Place for Caring

Vision: A place where students can freely and authentically engage with their identities in nature away from the core of campus while still being on university grounds

Goals and Objectives:

1. Create a space where non-colonial and anti-colonial goals can be implemented.
   1. A terraced, high-visibility greenspace facilitates clear lines of sight from University Blvd. and Paint Branch Dr. and allows for a variety of student activities and activism.
   2. A second terrace allows for future expansion, encouraging student involvement. Ground-up design encourages intersectional, non-hierarchical engagement.
2. Create a space where students can be exposed to and appreciate the "natural" world
   1. Construct a bioretention pond; use soil from that location to elevate other sections of the site.
   2. Densify plantings with mid-Atlantic region native species in wooded sections of the site and around the constructed pond.
   3. Build spaces where people can appreciate the natural world from unique and captivating points of view.
3. Design a space where people of all abilities are welcome
   1. Provide accessible parking on site connects users with accessible pathways.
   2. Multiple accessible pathways invite exploration and allow for choice and freedom of movement for all people.

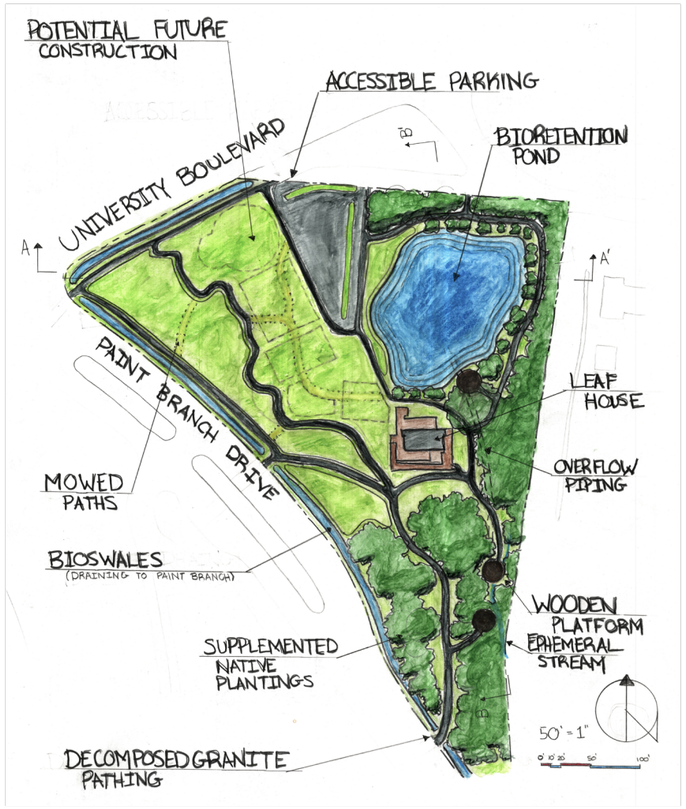
Site Pictures

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

B. Phoenix Morrison
LARC 640 - Graduate Studio I
Professor Naomi Sacks
Fall 2022

A Place for Caring (Site Plan)

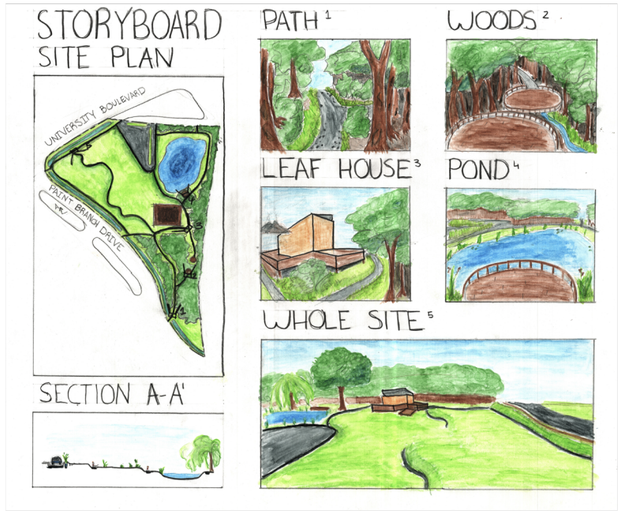


The Forest

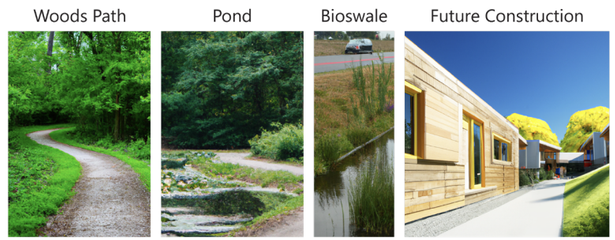
The Plain

The City

Storyboard



Inspirational Images Created in DALL·E 2



The Terraces (Section A-A')

The Woods (Section B-B')

Terraced Grass

Forest Platform

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Seventh Generation Gardens

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

Dana Watkiss | LARC640 Fall 2022 | Dr. Naomi Sachs

Increase connectivity to nature and urban food systems
- Expanded parking space and increased accessibility from University Blvd encourages students and community members to visit the site
- ADA compliant boardwalks and decomposed granite pathways throughout the site provide improved access to campus
- Interactive gardens with pick-your-own fruits and vegetables invite people to visit and explore organically grown native produce
- The 3 sisters garden and berry picking structures are ADA accessible
- Community pavillion where students can enjoy the foods they picked or host other events

Restore and protect existing wetland area while managing stormwater pollution
- Restored wetland builds off of already existing ephemeral stream
- Bioretention areas with river birch and other flood tolerant plants reduce runoff and filter excess nutrients
- Evergreen trees help slow down runoff and provide more privacy and a feeling of refuge from the busy roads

Provide educational opportunities to learn about agroecology and indigenous plants
- Regenerative gardens where visitors can learn about sustainabale agricultural practices
- Informational signage and QR codes in each garden
- 3 sisters garden features alternating sister plants, cover crops, and on-site composting
- Experimental plots where professors and students in the agricultural sciences can experiement with crops
- Pollinator garden invites insects to pollinate the adjacent agricultural gardens
- Medicinal garden with plants used by indigenous tribes native to this area

UNIVERSITY OF MARYLAND LAND ACKNOWLEDGMENT

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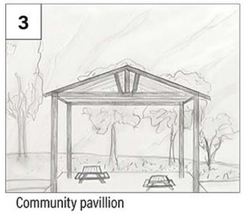
DESIGN DEVELOPMENT

1

Accessible berry picking

2

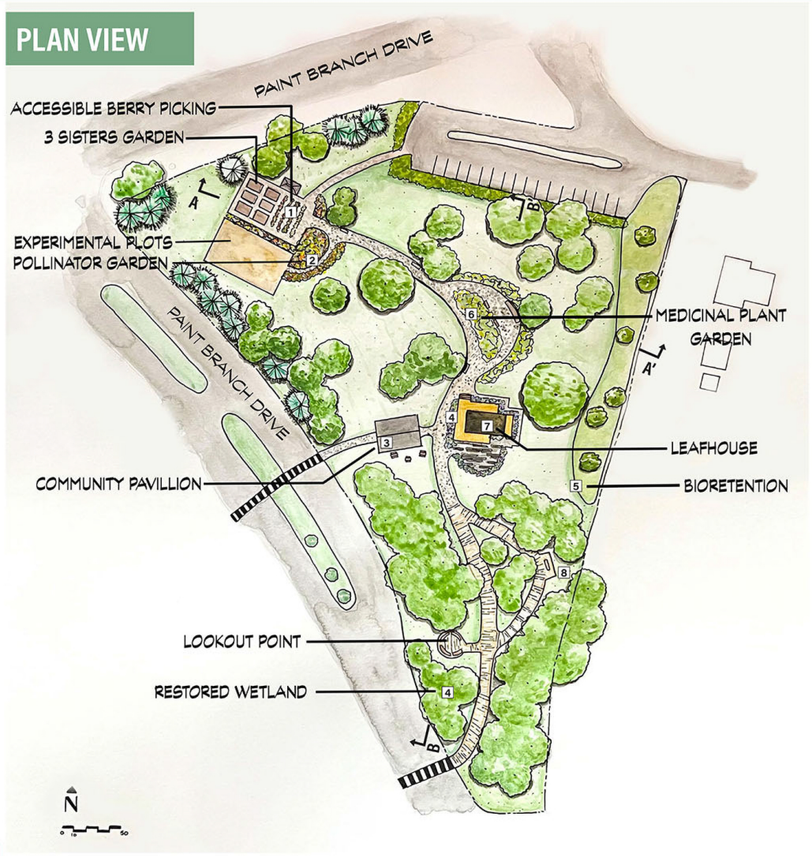
Pollinator garden

3

Community pavillion

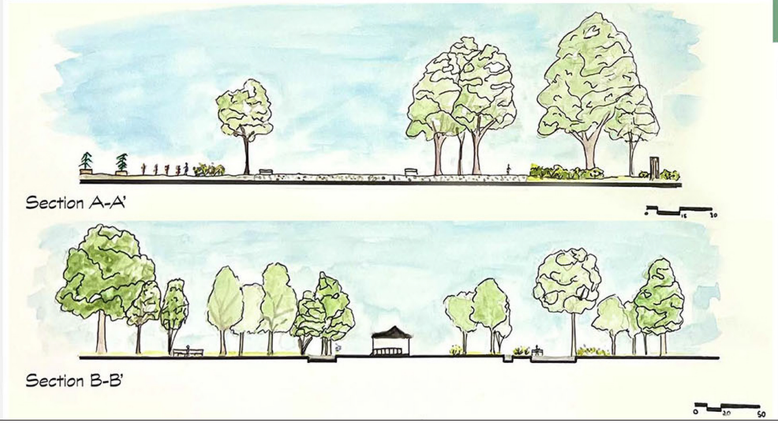
4

Restored wetland + boardwalk

PLAN VIEW



SECTIONS



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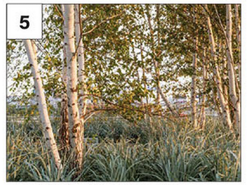

River birch + bioretention area

6

Sassafras

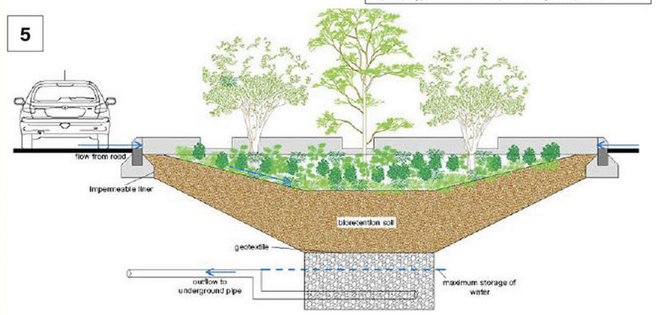
7

LEAFHouse

8

Lookout point

BIORETENTION

5


SOURCES
1. https://www.wuft.org/news/2019/04/11/farm-near-gainesville-builds-handicap-accessible-strawberry-picking/
2. https://www.gardengatemagazine.com/articles/design-ideas/all/how-to-design-a-garden-to-attract-more-pollinators/
4. https://www.celebratetheschildren.org/store/p49/Wetland_Boardwalks.html
5. https://www.researchgate.net/figure/a-Sketch-of-a-street-scape-bioretention-system-It-is-usually-placed-in-main-roads-with_fig2_326824879
5. https://www.instagram.com/p/CfQdbd0lI_/
6. https://2.bp.blogspot.com/-LKcEfaCOfIo/VG-InQsjpnI/AAAAAAAMgA/I31MF9kq7fY/s1600/Sassafras234.

Final Board

Dana Watkiss
LARC 640

INDIGENOUS INGENUITY: SITE ANALYSIS & PROPOSAL

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Narrative

Our client, the University of Maryland, would like to expand upon the current Solar Decathlon site as a living "sustainability lab" where students and faculty can learn, explore, and celebrate ideas around sustainability, resilience, and regenerative design. As an acknowledgement of the indigenous people who originally lived on this land, the university would like the design to reflect the Piscataway people and other indigenous tribes.

High Flying Bird by Alan LJ Shi

I am a hawk flying through the jagged sky.
Soaring above, looking below.
Tripping on clouds eight miles high,
Living life nice and slow.
Drifting through the day,
Trying to smoke out the blue jays.
Red eyes on the prowl,
I rest when the wolves howl.

Design Program

Vision: Build upon and incorporate Indigenous knowledge and principles and utilize them to redesign the project site.

Goal 1: Employ facets of Indigenous knowledge.
Objective 1: Research building methods Indigenous settlements used.
Objective 2: Incorporate native plants into design.

Goal 2: Learn and utilize regenerative design.
Objective 1: Examine how buildings and landscapes can be designed to minimize their environmental impact and improve the health of ecosystems.
Objective 2: Engage and involve the community when designing the site.

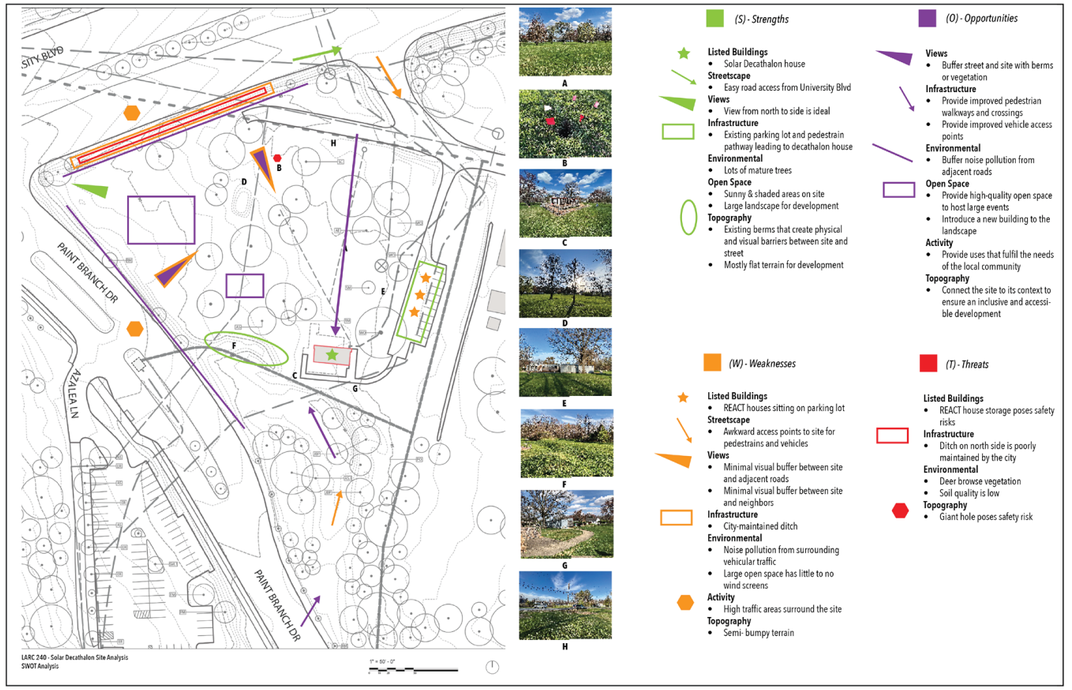
Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

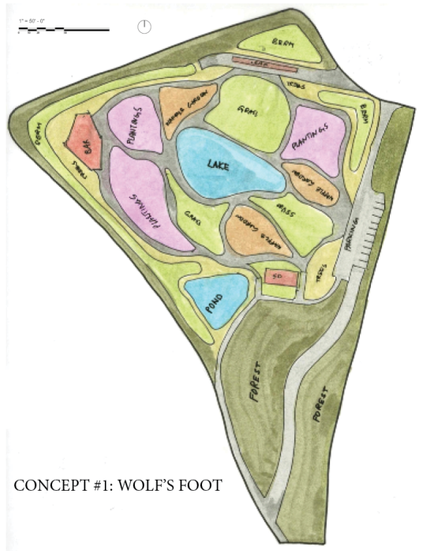
Alan LJ Shi | LARC 240 | Professor Naomi Sachs | Spring 2023

DC - BALTIMORE AREA

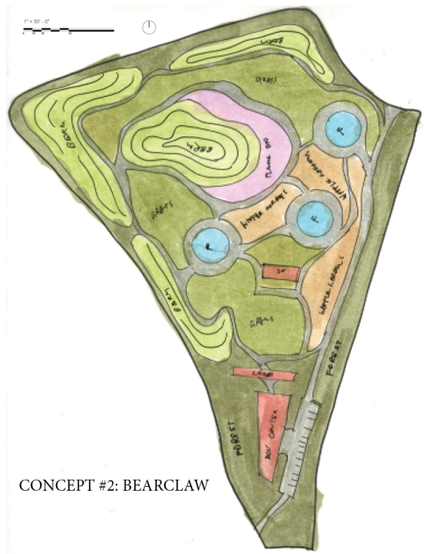
UMD MAP

SITE MAP

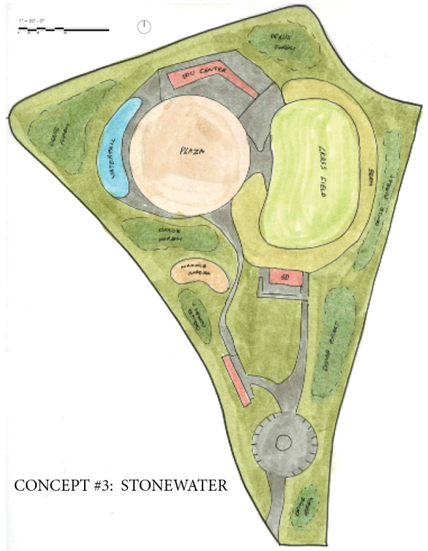




CONCEPT #1: WOLF'S FOOT



CONCEPT #2: BEARCLAW



CONCEPT #3: STONEWATER

INDIGENOUS INGENUITY: REIMAGINING THE SOLAR DECATHALON SITE

QUERCUS STELLATA

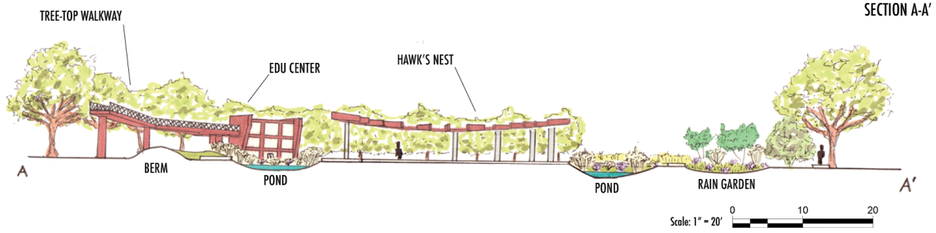
QUERCUS SHUMARDII

FAGUS GRANDIFLORA

ASIMINA TRIBOLA

BETULA NIGRA

SECTION A-A'



SECTION B-B'

THREE-SISTERS GARDEN

CATTAILS

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

Alan LJ Shi | LARC 240 | Professor Naomi Sachs | Spring 2023

Final Boards

Grazelle Giray
LARC 240

ECOLOGICAL ESCAPE:
A REDESIGN OF THE REACT HOUSE

The reACT House is a the 2017 Solar Decathlon winner, which embodies whole systems design inclusive of Indigenous communities and Indigenous Knowledge through interdiciplinary instructions. The site, located at the end of the University, will be turned into a sustainability lab for students and faculty to learn and do research.

UNIVERSITY OF MARYLAND LAND ACKNOWLEDGMENT
Every community owes its existence and strength to the generations before them, around the world, who contributed their hopes, dreams, and energy into making the history that led to this moment. Truth and acknowledgement are critical in building mutual respect and connections across all barriers of heritage and difference.

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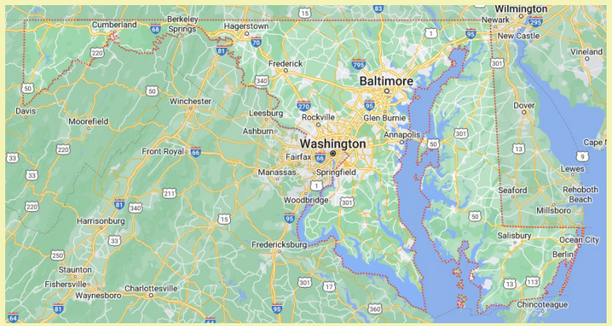
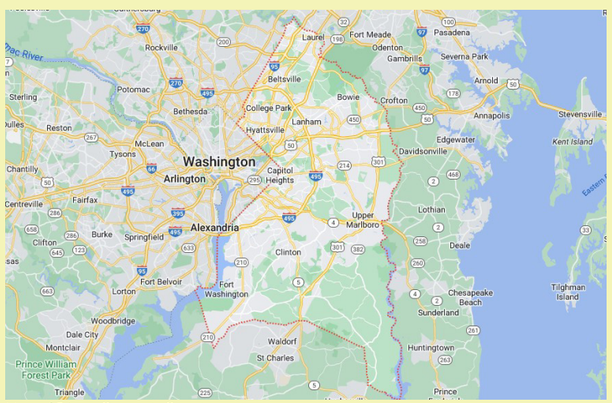
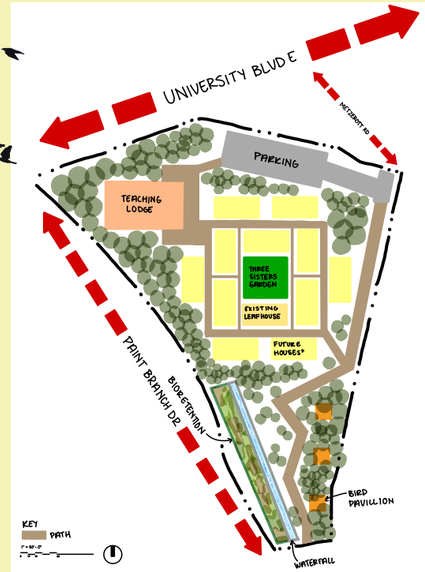
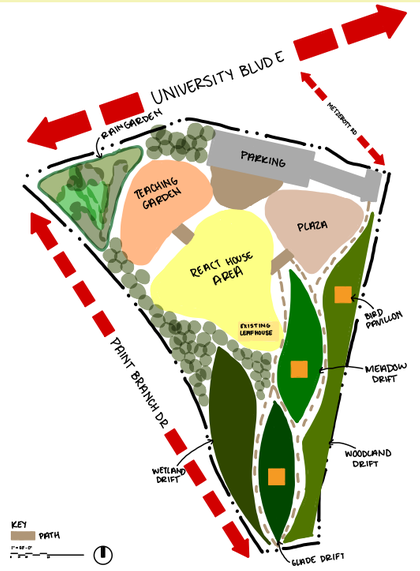


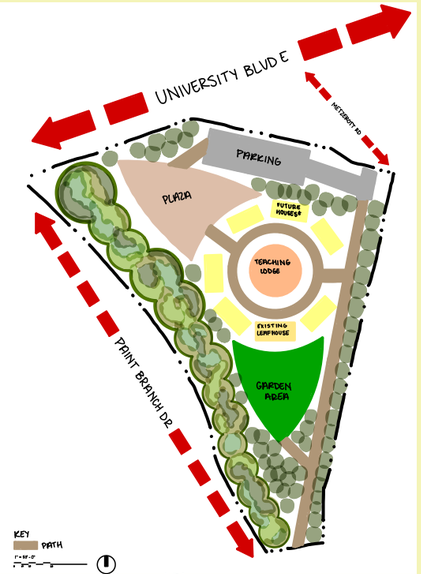
Map of Maryland



Map of Prince George's County







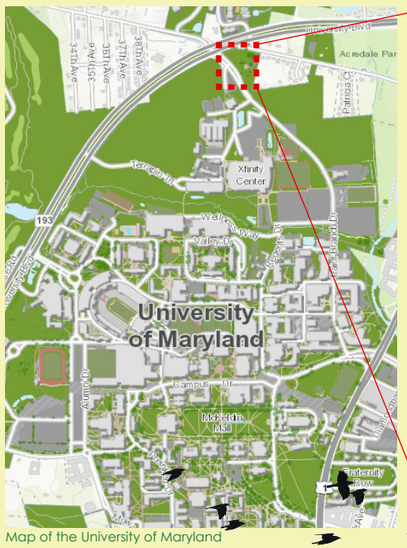
Concept Diagrams:
- The first concept diagram uses a rectilinear design. The focal point is the village area with the Three Sisters Garden.
- The second concept diagram uses a serpentine design. The focal point is the meadow drifts.
- The third concept diagram use a circular design. The focal point is the teaching lodge.

Vision: Turn the Solar Decathlon site as a living "sustainability lab" where students and faculty can learn, explore, and celebrate ideas around sustainability, resilience, and regenerative design.

Goal #1: Increase biodiversity.
Objective: Use native plants to provide food for animals/insects.
Objective: Layered garden design to increase habitats.
Objective: Add a water source.

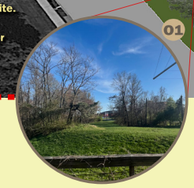
Goal #2: Successfully manage stormwater.
Objective: Place rain gardens near roads to catch stormwater runoff.
Objective: Catch and store rainwater to use on site.
Objective: Keep mature trees.

Goal #3: Educate students, faculty, and visitors.
Objective: Implement signage throughout the site.
Objective: Place bird watching pavilions to study birds in the area.
Objective: Implement teaching lodges.



Map of the University of Maryland

SWOT Analysis of Site



Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE
GRAZELLE GIRAY | LARC 240 | NAOMI SACHS | SPRING 2023

The Pollen-Shaped Steel structure in the Pollen Garden inspired the teaching lodges.

Ernsting's Family Campus in Coesfeld, Germany inspired the Plaza design.

This image inspired the Plaza seating.

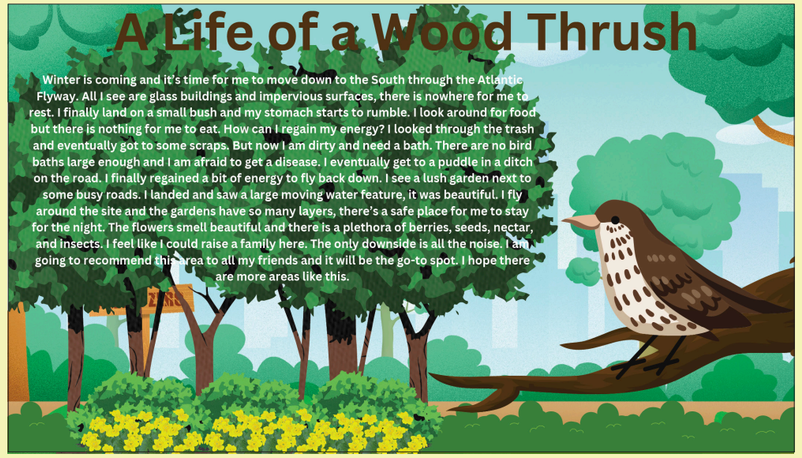
The Oregon Convention Center Raingarden inspired the Raingarden design.

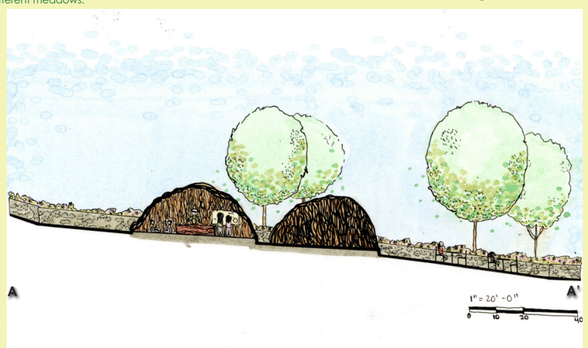
The Circular Wooden Tower by Lars J. Berge inspired the birdwatching pavillion for panoramic birdwatching.

The Native Plant Garden in New York inspired the different meadows.

Plan and Precedent Images

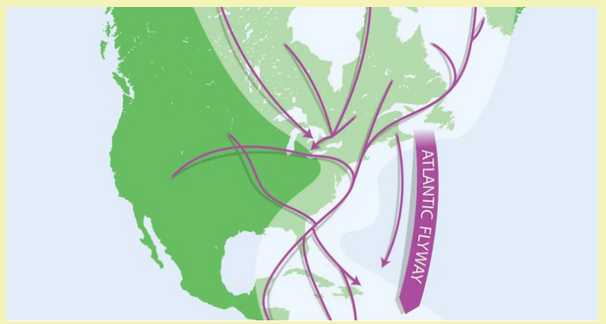
Trail through the Meadows Perspective





Teaching Lodge Section

Plaza and Raingarden Section



The Atlantic Flyway is a path that birds take, such as the Wood Thrush, to get to warmer temperatures durin gthe winter. Maryland is part of the Atlantic Flyway and birds need to find areas to regain energy to continue the trip.

Landscape Architecture
DEPARTMENT OF PLANNING AND DESIGN ARCHITECTURE
GRAZIELLE GIRAY | LARC 240 | NAOMI SACHS | SPRING 2023

INDIGENOUS INCLUSION

UNIVERSITY OF MARYLAND LAND ACKNOWLEDGMENT

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Narrative:
The leafHouse and the reACT house are located on the Northernmost point of UMD's campus. These structures were winners of the Solar Decathlon in 2007 and 2017 respectively. These structures also tied in knowledge of indigenous communities in their design concepts.

Vision:
Bring awareness about indigenous communities to UMD's campus

Goals:
Incorporate hardscape to the site
1. Adding more paths for ADA accessibility
2. Creating a potential site for the reACT house or a new structure
3. Provide walls for nearby residents to allow for privacy
Create an appealing, sustainable site
1. Create rain gardens, "three-sister" gardens to spread awareness of indigenous cultures
2. Introduce mounds for cultural awareness and places for rain gardens/bio-retention
3. Introduce more native trees, replacing the current due to blight
Incorporate UMD's campus with the site
1. Add more parking spaces
2. Signage, pedestrian circulation (i.e. path to leafHouse)

flap, flap, flap

Here I land,
Making a stand,
Looking around for food,
So so good.

flap, flap, flap

Lots of goodies in the trees,
Leaves are flying in the breeze,
Must find some twigs,
Oh there's one! But that's too big.

flap, flap, flap

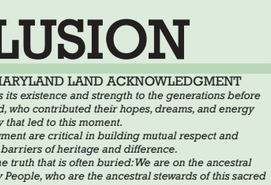
Must hurry,
Should scurry,
Family needs warmth,
Before the storm.

flap, flap, flap

The storm is brewing,
Rain is accruing,
Water is rising,
The ground is oozing.

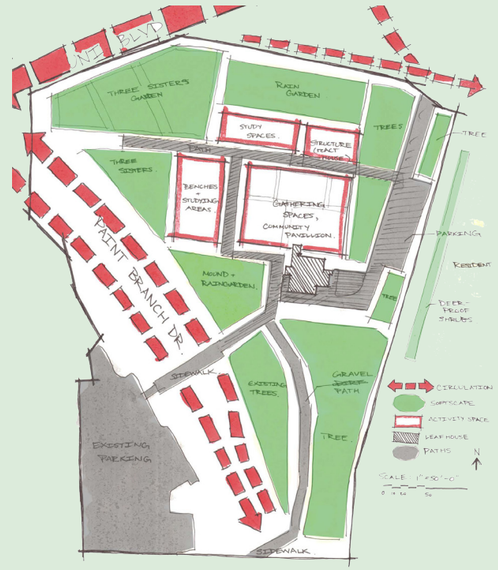
Need.
Rest.
Now.

flap, flap..



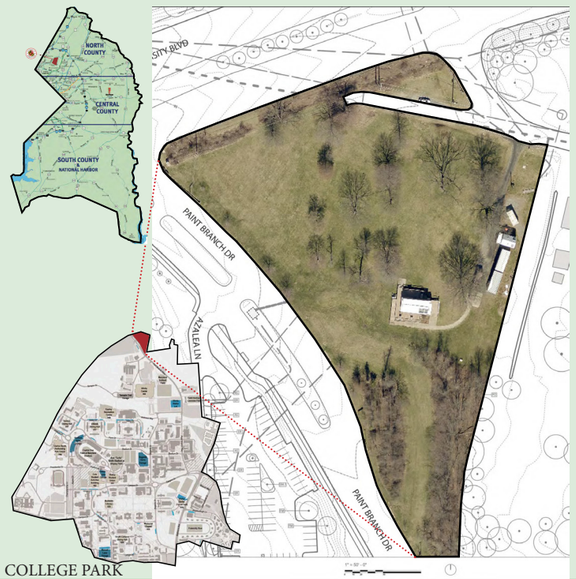
CONCEPT 1: EBB AND FLOW

CONCEPT 2: ANGULAR



CONCEPT 3: COUNCIL

SITE CONTEXT

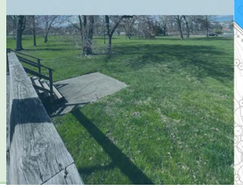


Strengths

1. Huge Site to work with
2. Minimal Noise Pollution
3. Existing Structures to Anchor Vision
4. Variety of Softscape and Vegetation

Opportunities

1. New Structure, reACT House relocation
2. More hardscape to site
3. Foundation of former structure
4. Connection to campus from site



Weaknesses

1. Parking Limited
2. Isolated from UMD Campus
3. Condition of reACT House
4. Contour can get very bumpy, hard for people to walk

Threats

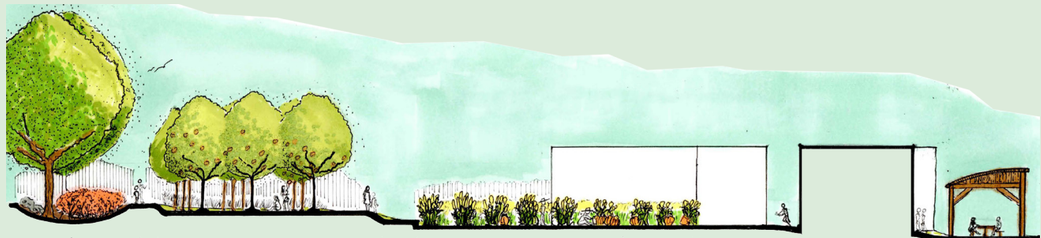
1. Residential & Urban Development
2. UMD Campus Development
3. Weather Damages
4. Existing Well

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

David Phan | LARC 240 | Dr. Naomi Sachs | Spring 2023

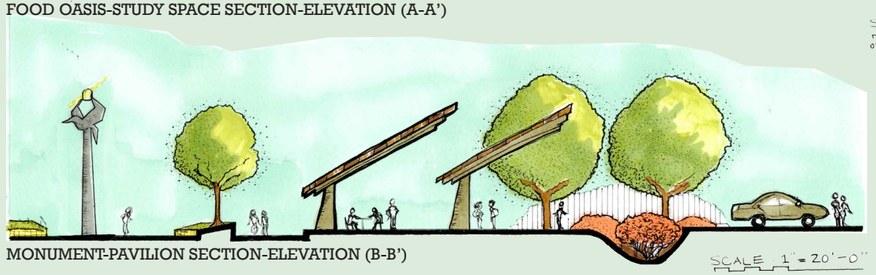
INDIGENOUS INCLUSION

SITE PLAN



FOOD OASIS-STUDY SPACE SECTION-ELEVATION (A-A')

SCALE 1" = 20'-0"



MONUMENT-PAVILION SECTION-ELEVATION (B-B')

SCALE 1" = 20'-0"

SEATING SPACE PERSPECTIVE

PRECEDENT IMAGES

PAVILION

THREE SISTERS

RAIN GARDEN

EDIBLE FORESTS

MONUMENTS

STUDY SPACE

DESIGN INSPIRATION

The final design is based on my third concept, Council. Using the circular grid, the design revolves around the monument. The legend of the three sisters brought inspiration to the final concept. The corn and squash is represented with the hardscape while the beans are represented as rain garden cells.
The design also combines both ideals of privacy and unity. For the residents, many trees are planted for noise protection and privacy. For the campus, study spaces and a learning space is provided for students and faculty to use.

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

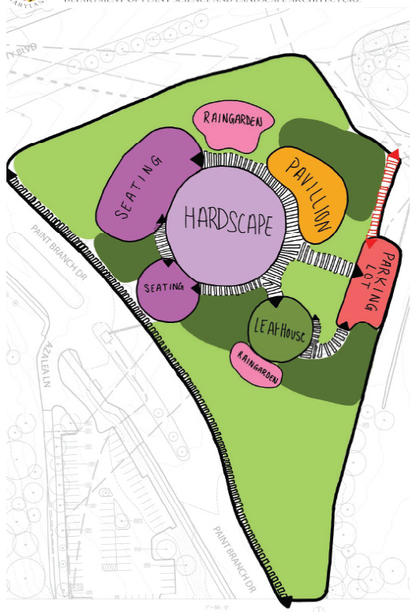
David Phan | LARC 240 | Dr. Naomi Sachs | Spring 2023

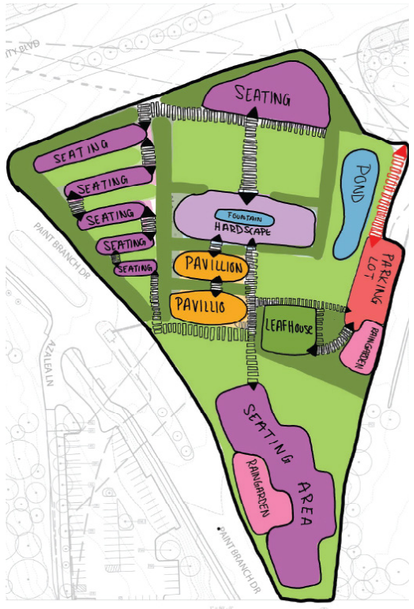
RESEARCH AND CONTEXT

TIARA RACHMAN | LARC240| NAOMI SACHS | SPRING 2023

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

The current Solar Decathlon site aims to expand upon the University of Maryland and live as a "sustainable lab" where students and faculty can explore, investigate, and celebrate concepts related to sustainability, resilience, and regenerative design. This design also aims to honor the Piscataway tribe andother indigenous tribes.





LEGEND

LEAFHouse	GREEN SPACE	RAINGARDEN	HARDSCAPE	MULCHING	PEDESTRIAN PATHWAY
VEGETATION	SEATING AREA	PAVILLION/GAZEBO	POND	PARKING LOT	AUTOMOBILE PATHWAY

STRENGTHS

- A LOT OF GREENSPACE
- A LOT OF LIGHT BECAUSE THERE'S NOT A LOT OF TREES WHICH CAUSES A LACK OF NOISE BUFFER
- MATURE TREES= LARGER CANOPY WHEN THERE ARE LEAVES
  - RED MAPLE
  - SWEETGUM
- UMD CAMPUS
  - ACCESIBLE TO

OPPORTUNITIES

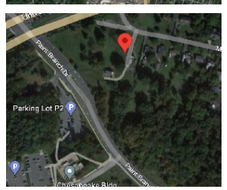
- MORE VEGETATION
  - MORE COLOR
  - BRINGS IN MORE BIODIVERSITY
  - MORE POLLINATORS
- LARGE EVENTS
  - LARGE GREENSPACE
  - MD DAY CAN BE HOSTED
- MORE STRUCTURES
  - SEATING
    - BENCHES
    - CANOPY AREA
    - LIGHTING
    - TRASHCANS

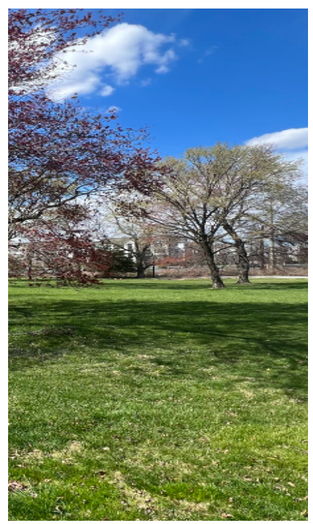
WEAKNESSES

- NOT A LOT OF TREES
  - LACK OF NOISE BUFFER
- NOISE POLLUTION = NEARBY ROADS
  - HIGHWAY
  - ENTERANCE/EXIT OF CAMPUS
- LACK OF HARDSCAPE
  - ADA ACCESSIBILITY
  - WALKING ON GRASS= KILLING THEM
  - NO SEATING
- LACK OF CITY MAITENANCE
  - OUTGROWN WEEDS
  - DITCH NOT MAINTAINED

THREATS

- NO PRIVACY
  - LACK OF SCREENING
    - FENCE
    - GREENWALL
- NO BLUE EMERGENCY POLL
  - BEING A FEMALE IN CP
  - NO "CAMERAS"
- ANIMALS EATING VEGETATION
  - NEED DEER TOLERANT VEGETATIONS





My vision for this site is to create a public space for all to use individually or as an area to host events. Through the use of unique structures and vegetation with sustainability being a number one priority. My goals for this site is to utilize unique structures that are inspire the Piscataway tribe as a way of dedicating the LEAFHouse site to them. This can be accomplished through learning about the different structures they have made and materials used to create a similar design honoring them. This also includes having a water feature. Another goal of mine to implement a lot of vegetation to the site for color and biodiversity. I want to incorporate plants that are unique and special to the Piscataway tribe.

Waiting
By: Tiara Rachman

All day, everyday, I stand there waiting for something exciting. A curious mind to visit the house, a deer walking through, or even the maintenance people blowing the leaves. But it's just the same old stuff...Cars driving by, sirens one or two throughout the day, and the regular pollinators and birds that swing by. I see potential for this area, I wished the school saw it too. It can be just as lively as the other spaces on campus like the Mckeldin Mall, Washington Quads, Hornbake Plaza, and Tawes Plaza. The blue jays that migrate too and from the hot spot areas of the school to the LEAFHouse would always talk about the exciting things they saw there. I get excited when I listen in on them. But I'm just a Red Maple tree, still as can be. Waiting for something exciting to happen to me. I see the potential this site can have, I have potential too. When my leaves come back, I provide great shade for everyone, I have beautiful fall foliage to share too. Just waiting for someone to notice me.

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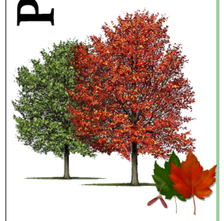
Patawomeck Plaza

"where the goods are brought"

Tiara Rachman|LARC 240 | Naomi Sachs| Spring2023

Landscape Architecture

DEPARTMENT OF PLANT SCIENCE | PLANT LANDSCAPE ARCHITECTURE



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SECTION A'-A"

SECTION B'-B"

MATERIALS USED

PRECEDENT IMAGES

TREES USED ON SITE

NORWAY SPRUCE

SOUTHERN MAGNOLIA

HICKORY OAK

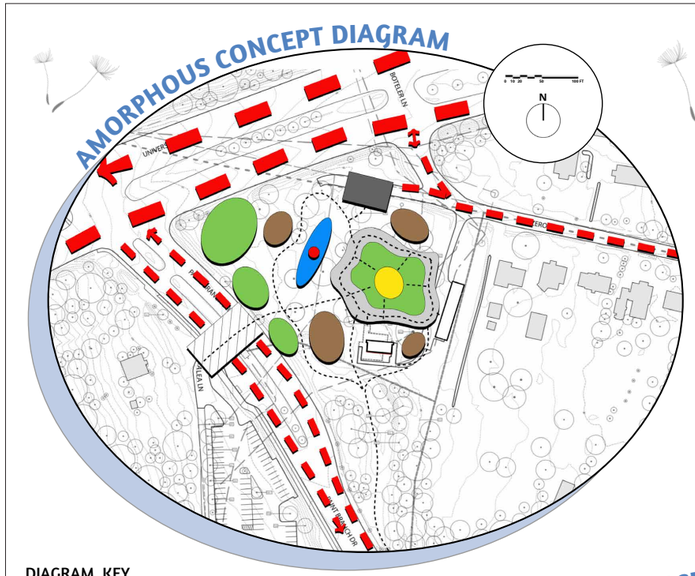
PAW PAW

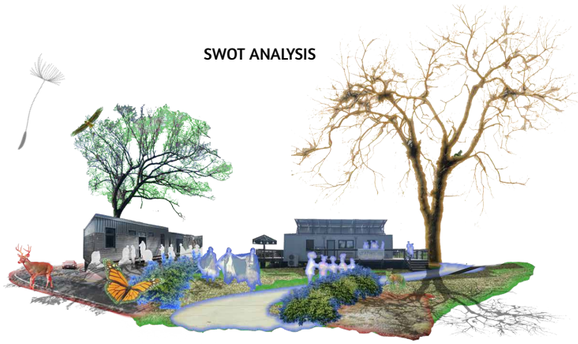
RED MAPLE

CHESTNUT

Final Boards

Caleb Austin
LARC 240





STRENGTHS
- Green space
- Tree canopies
- Large site
- Secluded
- Wildlife
- Existing structures
- Near campus entry

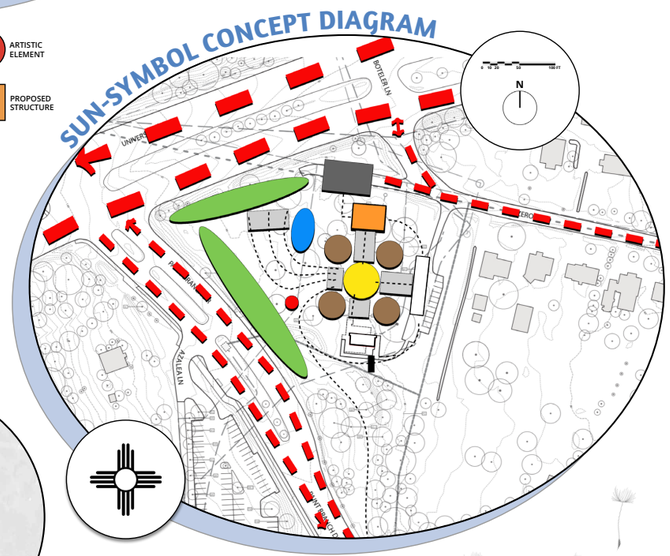
WEAKNESSES
- Proximity to high-way
- Edge of campus
- Poor drainage
- Deer pressure
- Accessibility
- Lacks of use

OPPORTUNITIES
- Integrating site with campus
- Using Indigenous Knowledge
- Educational opportunities
- More hardscape

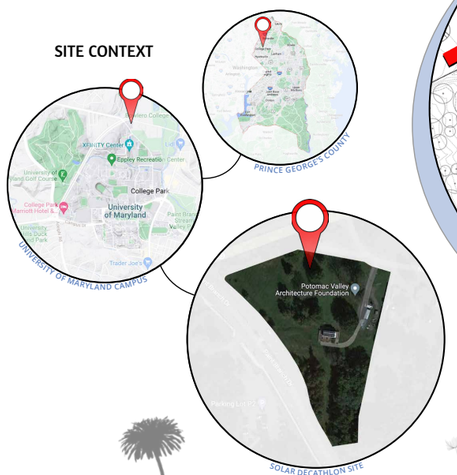
THREATS
- Diseased trees
- Flooding
- Storm damage
- Potential development
- Selling the land
- Lack of security

DIAGRAM KEY

MAIN GATHERING SPACE · NEW PLANTINGS/ MEADOW · BIO-RETENTION/ WATER FEATURE · ACTIVITY/ LEARNING SPACE · ARTISTIC ELEMENT
EXISTING STRUCTURES · PRO-POSED CROSSING · MAIN PAVE-MENT AREAS · PRO-POSED PARKING · PROPOSED STRUCTURE
PEDESTRIAN CIRCULATION · VEHICULAR CIRCULATION



SITE CONTEXT



"Unfamiliar Ground"

The story of a dandelion

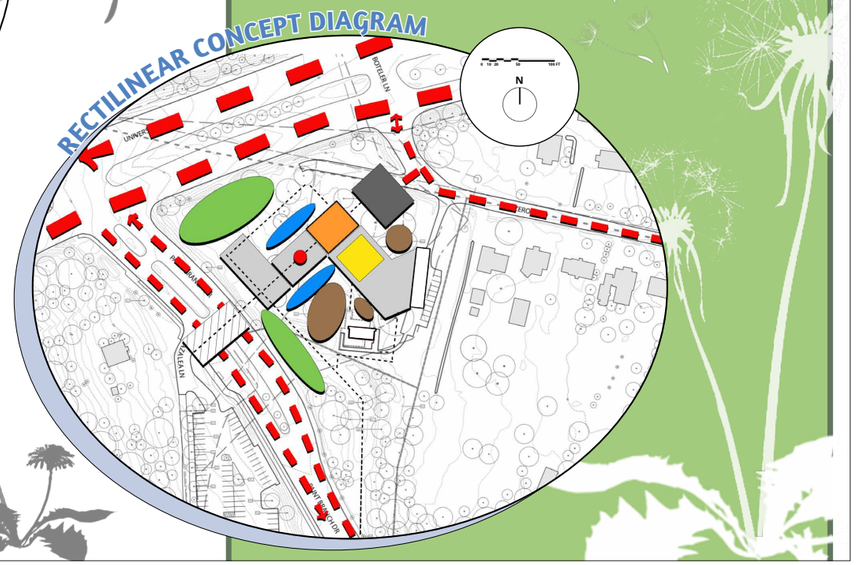
Amidst the trees and grassy lawn, A yellow dandelion had been born,
A non-native flower, some would say, But to the pollinators, it was a welcome stay.

Season after season, it spread its seeds, Across the land, it had no needs,
A highway nearby, but it didn't care, As it had found a home here and there.

The mature trees provided high shade, As cars passed by on the highway's parade,
But the dandelion remained steadfast, Spreading its roots, making its mark to last.

Pollinators came to visit, one by one, Sipping on nectar, then off they'd run,
To spread the dandelion's pollen far and wide, In a world that was constantly changing its tide.

Some may say it doesn't belong, A non-native that europeans brought along,
Nevertheless,
It's roots dug deep, firmly anchored and wound, For it had made a home in unfamiliar ground



ROOTED IN INDIGENOUS KNOWLEDGE

Caleb Austin
LARC240
Naomi Sachs
Spring 2023

Landscape Architecture
DEPARTMENT OF PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

NARRATIVE

The University of Maryland would like to expand upon the current Solar Decathlon site as a living "sustainability lab" where students and faculty can explore ideas around sustainability, resilience, and regenerative design while acknowledging the Indigenous people who originally lived on this land.

DESIGN PROGRAM

WEAVING PAST AND PRESENT THROUGH INDIGENOUS INSPIRED DESIGN

Storytelling Through Design
- Signage and art
- Nature play spaces
- Symbolism in the layout

Sustainable, Resilient, and Regenerative
- Repurposing tree material
- Rain gardens/bioretention
- Green roof on proposed structure

Integration (with campus and of indigenous knowledge)
- Spaces that foster thought and conversation
- Pathways and hardscape that connect the space
- Agroforestry and water harvesting

UNIVERSITY OF MARYLAND LAND ACKNOWLEDGMENT

Every community owes its existence and strength to the generations before them, around the world, who contributed their hopes, dreams, and energy into making the history that led to this moment. Truth and acknowledgement are critical in building mutual respect and connections across all barriers of heritage and difference.

So, we acknowledge the truth that is often buried: We are on the ancestral lands of the Piscataway People, who are the ancestral stewards of this sacred land. It is their historical responsibility to advocate for the four-legged, the winged, those that crawl and those that swim. They remind us that clean air and pristine waterways are essential to all life.

This Land Acknowledgement is a vocal reminder for each of us as two-leggeds to ensure our physical environment is in better condition than what we inherited, for the health and prosperity of future generations. We also acknowledge that throughout our history, our university has not always lived up to our ideals of diversity, equity and inclusion. Today we reaffirm our commitment to building and celebrating a multicultural community. Please take a moment to consider these many legacies of bias, prejudice, violence, and settlement that bring us here today.

THE GARDEN OF SUN AND SUBSTANCE

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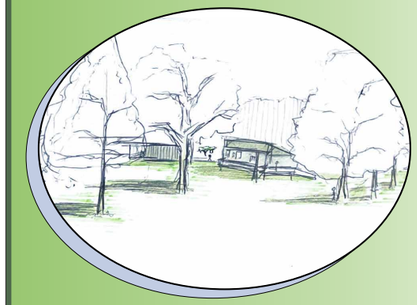
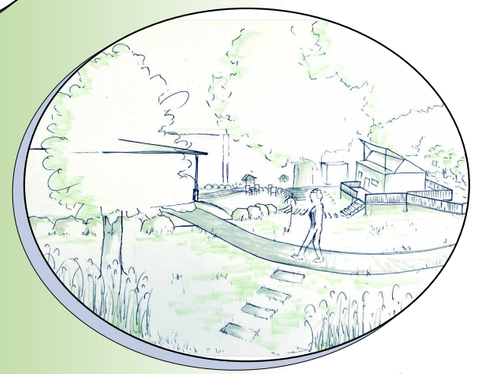


DESIGN SUMMARY

The final design is centered around combining Indigenous thinking with creative and regenerative design. As such I made the space come alive with various elements. Guided by the sun symbol, which is central to the main plaza, I then created meandering paths that connect you to features such as the bioretention pond, the edible walkways, and the nature play space. All of which take ideas of Indigenous thinking and adapt them to this site. Further I've increased accessibility to the site with improved parking and ADA compliant paths. Thus creating a space on Indigenous land that invites surrounding communities to participate in thoughtful conversation and intimate interaction with ones environment.

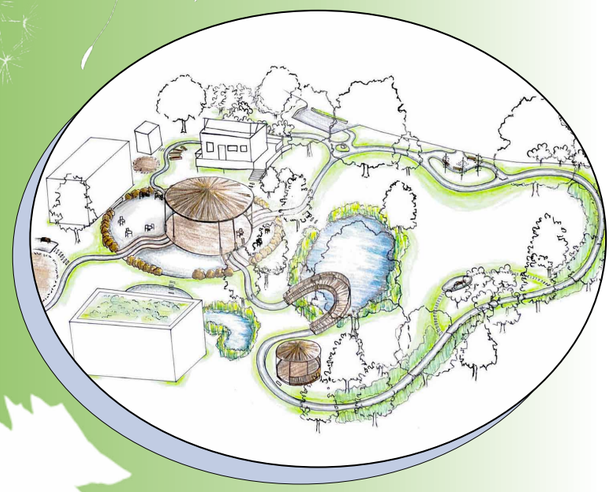


PERSPECTIVE DRAWINGS

ABOVE - pen and marker sketch of the Leaf House and ReACT House through the trees. Sketched during our visit to the site.

RIGHT - First Person perspective of the entry into the plaza.

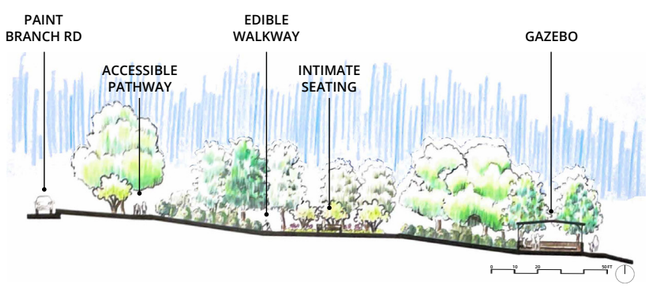
BELOW - Birds-eye view of my proposed site design in pen and colored pencil. Showcasing elements such as the plaza, the bioretention pond, and the edible walkway.



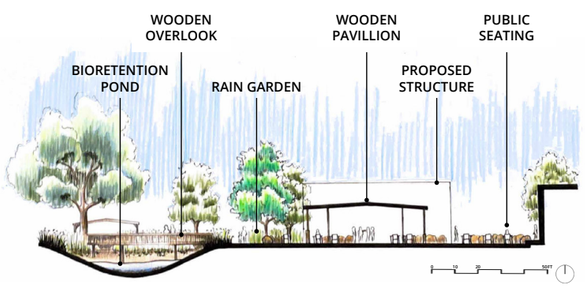
PRECEDENT IMAGES

RENDERED SITE PLAN

SECTION DRAWINGS



THE EDIBLE WALKWAY | SECTION ELEVATION A-A'



BIORETENTION AND PLAZA | SECTION ELEVATION B-B'

Image: Three Sisters Agriculture, CC by 2.0

Sources Used

Many of our sources were from the UMD LibGuide compiled by Patti Cossard, Decolonizing Education to Meet the Demands of Climate Change: https://lib.guides.umd.edu/indigenousknowledge

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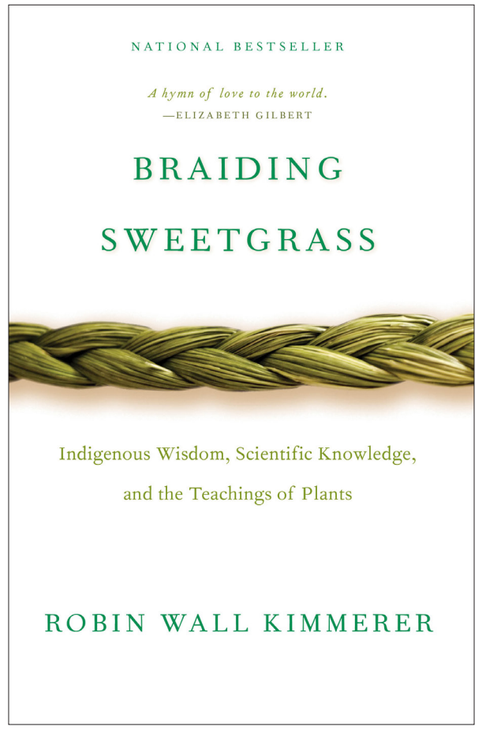

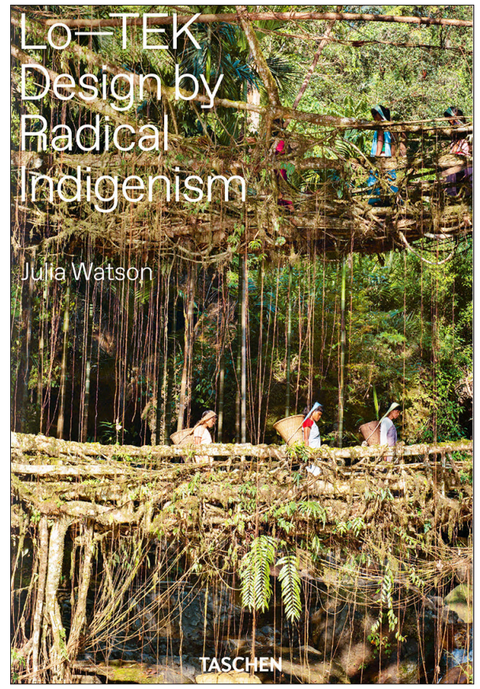

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