

Rethinking Parkerson Mill Creek, AU Campus

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Parkerson Mill Creek (PMC), an indispensable portion of the nearby environment, gives a green corridor with valuable local ecologies. Quick urbanization, extra loads of surface runoff, climate change, and contamination have changed the creek's biodiversity. Between 1965-1973, Auburn's city culverted the Parkerson Mill Creek stream close RBD library, which significantly altered headwaters' flow. Parts of stopping parcels are making a point source of contamination that contaminates the stormwater. The zone is making a straight edge between AU green space and Auburn's city's green walkways. Besides, the town itself has few green spaces left compared to the green expanse of Auburn University. Both spaces co-exist without creating any association. The location within the RBD library's front illustrates the potentiality of adjusting and bringing back the past (PMC) by reconnecting all the city's green texture. This investigation objectives center on making a transitional

space of interaction whereas giving stormwater management techniques by daylighting Parkerson Mill Creek close the RBD Library.

Moreover, it emphasizes the green connection of Auburn University and the city of Auburn to ensure transitional ecological spaces. This research additionally proposes education, participation, stormwater collection and purification areas, the use of more porous surfaces, reuse of existing structures, and harvest rainwater. It engages design by examining sketches, scale models, sections, and repeated drawing investigation of the site. Also, the research accomplishes goals by creating an experiential social space of interaction in front of the RBD, daylighting Parkerson Mill creek, making Roosevelt Avenue a concourse; connect it with neighborhood street to Pinehill cemetery, and extend it to Town creek, thus creating a connection of Parkersopn mill creek

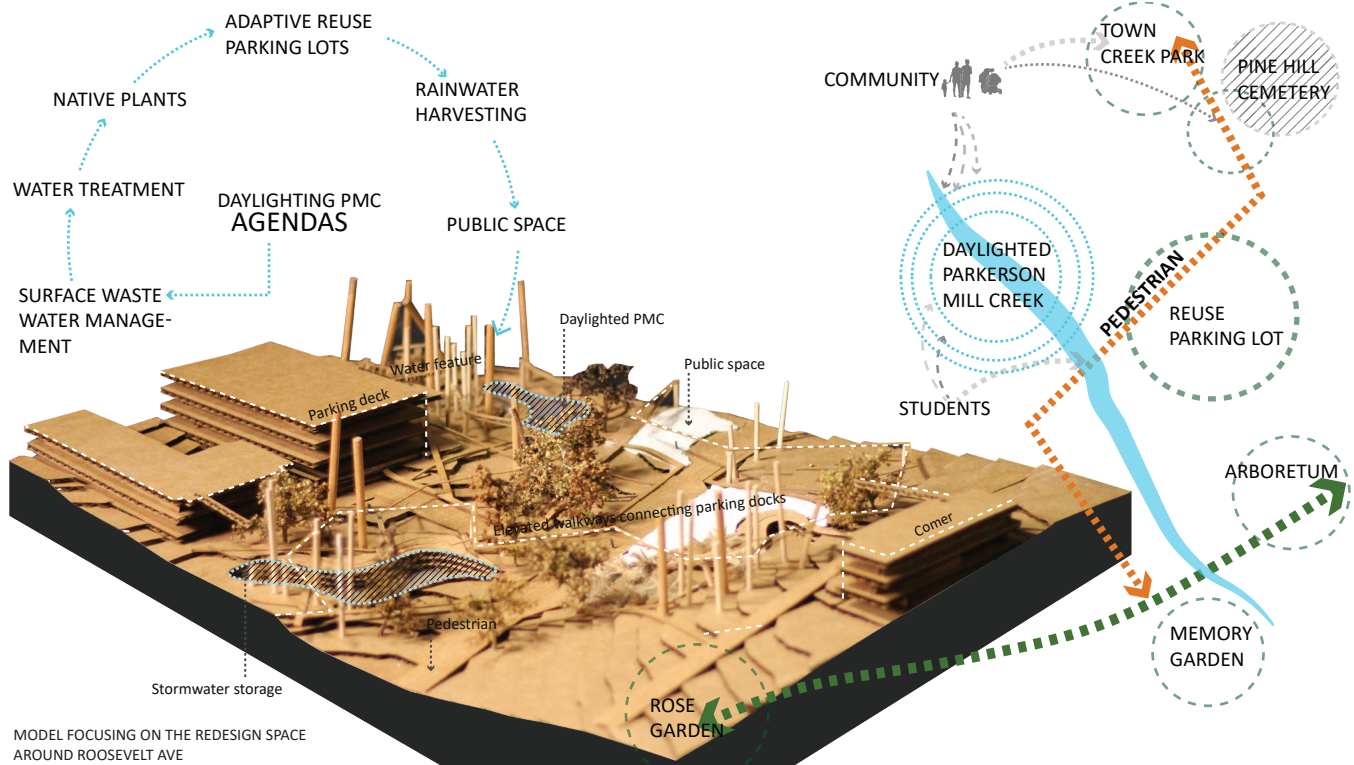
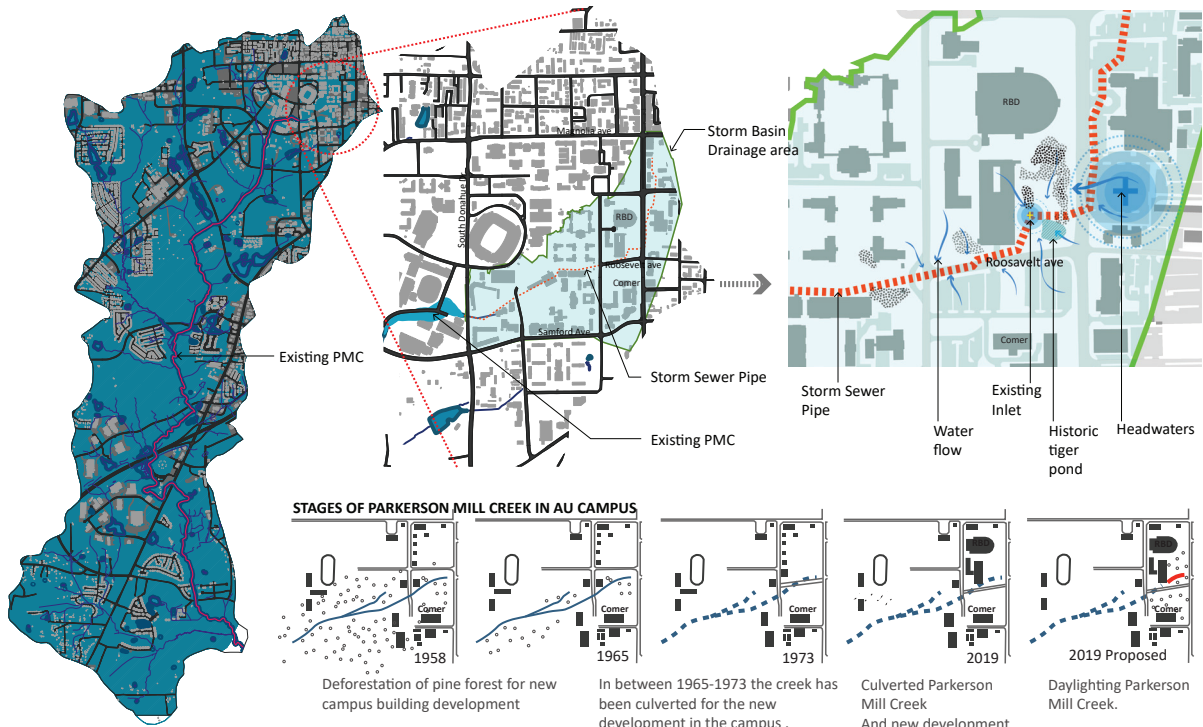
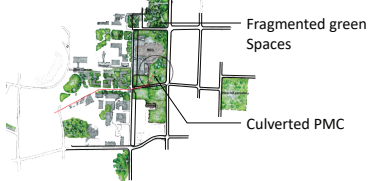


Figure 1. Model and diagram of Daylighting PMC. Image credit : Author.

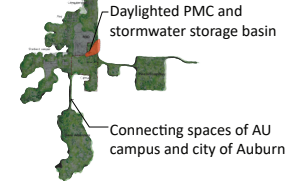


Watershed of Parkerson Mill Creek (PMC)

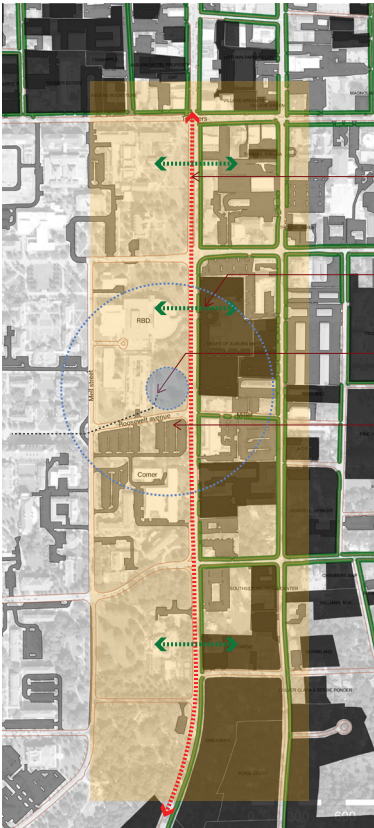
What is missing ?



How to address ?



SITE ANALYSIS



- Clear edge between the green spaces of Auburn university and green ways of city of Auburn.
- No transitional space for transitional ecosystem.
- Culverted PMC
- Fragmented green space in Auburn university Campus and in the city of Auburn.
- Parkerson Mill Creek and Town creek co exist without any connectivity.

Strategy Followed

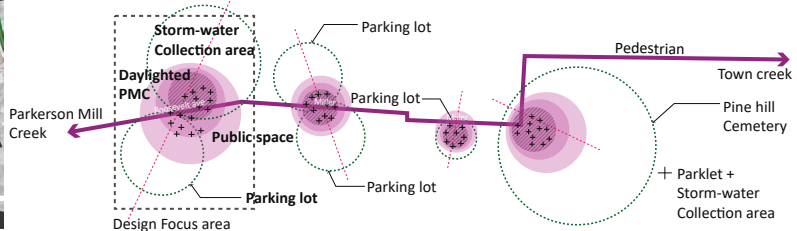
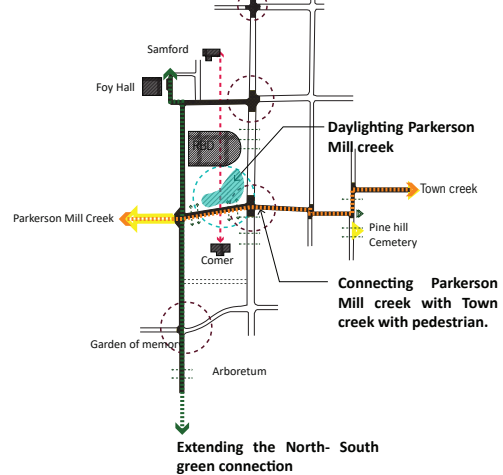


Figure 2. Site Analysis and possible design strategies . Image credit: Author.

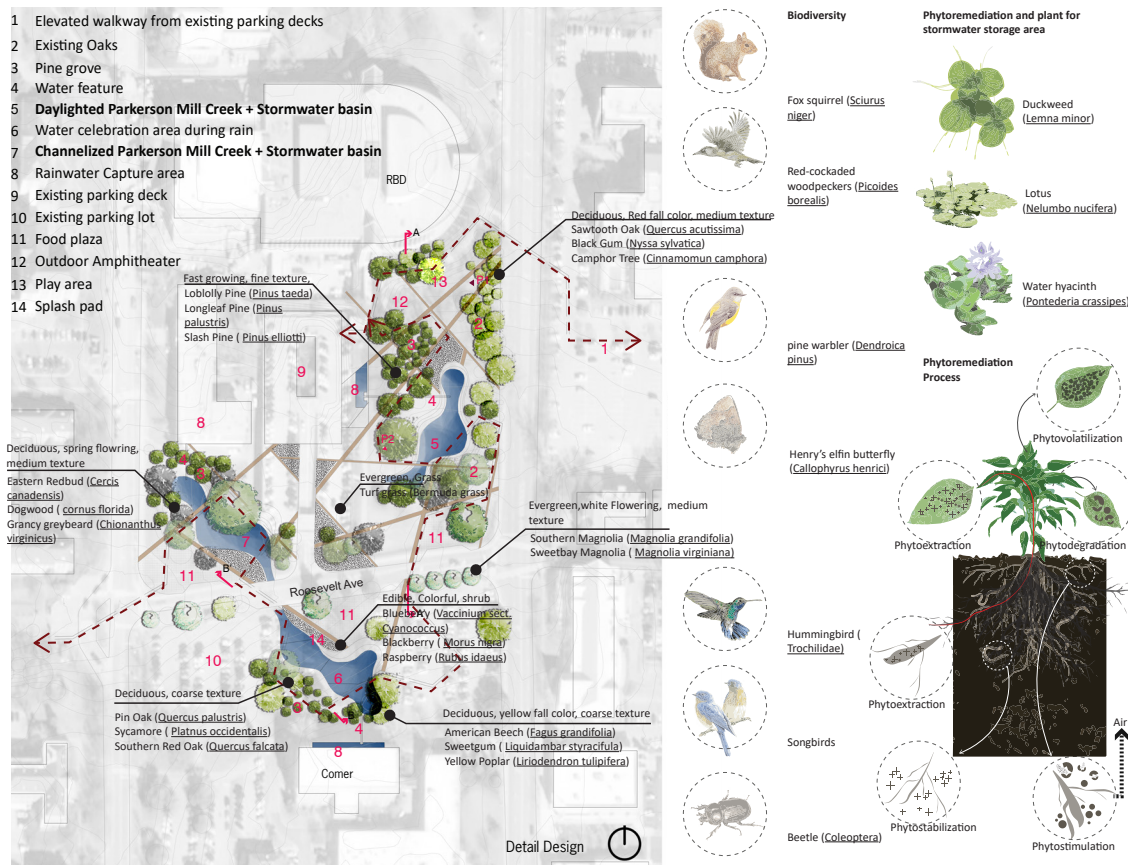


Figure 3. Design Agendas. Image credit : Author.

with Town creek in the urban fabric. The design results reflect a new resilient social space that provides green connecting ecosystems and water quality. The final design amplifies the native ecosystem by connecting green corridors and water movement, providing community space, and creating awareness by slowing down people to rethink Parkerson Mill creek.

Parkerson Mill Creek is one of the essential creeks that feed Chewakla creek in Auburn, Alabama. Where possessing the historical value, the stream is now found daylight in front of Auburn Universities health and wellness center. The Alabama Department of Environmental Management (ADEM) has declared Parkerson Mill Creek endangered due to the extreme levels of pathogens present in the water. The most common pathogens are E.coli that is causing severe harm to wildlife and people’s health. According to ADEM, Parkerson Mill Creek, like other creeks, can capture floodwaters and replenish groundwater supplies. They help establish a sustainable river ecosystem by providing shelter for plants and animals in the river, which recycles potentially harmful nutrients from the water. Any alterations to these streams’ flow may harm the water’s environmental consistency that enters the river. Pollution and urbanization have destroyed many ecosystems. Creek ecologies have created several ecological issues in waterways in the United States, including an increase in destructive

floods, which filter contaminants and make possible “dead zones” for aquatic life. Creeks also help improve drinking water quality by washing and filtering potentially dangerous bacteria and toxins (EPA). Before Auburn University’s Creek restoration program, the stream received an excessive stormwater drainage volume, creating turbidity due to soil erosion and lack of vegetation along the streambank. The City of Auburn, Auburn University, the Alabama Cooperative Extension System at Auburn University, and the Auburn University Water Resource Center have started to create a strategy further to enhance the water quality of Parkerson Mill Creek to assist in improving the water quality of Parkerson Mill Creek. This project is a part of the studio project of the Landscape Architecture Masters program to execute the possibilities of strengthening creek health in a city context. Creating public awareness, using sustainable materials, creating a connection with other urban fabric are some of this studio project’s focus.

For this purpose, this project focuses on planting strategies to reduce soil erosion, water filtration by using plants and creating a transitional space of interaction. Sustainable materials are proposed here to keep coherence with the existing landscape materials that Auburn University is using. Since parking lots are making the highest amount of surface runoff pollutants, a similar green spaces strategy is proposed in this project

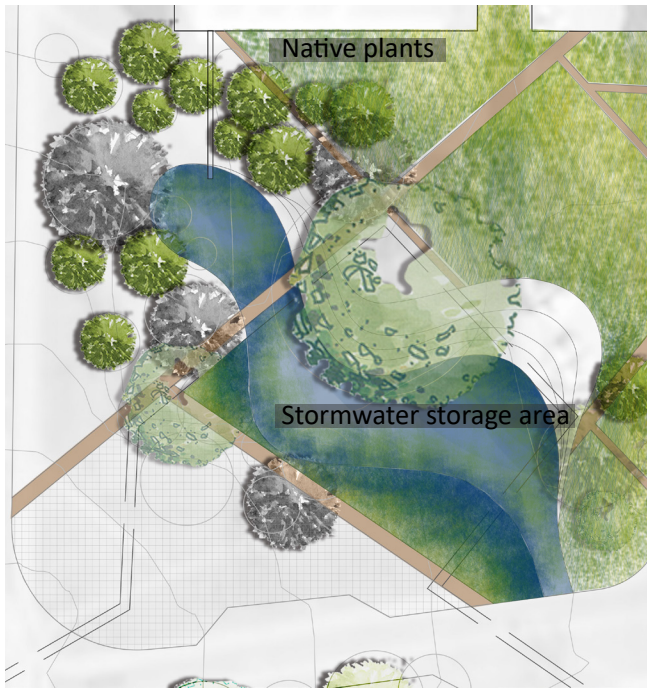


Figure 4. Detail of Water storage area. Image credit : Author.

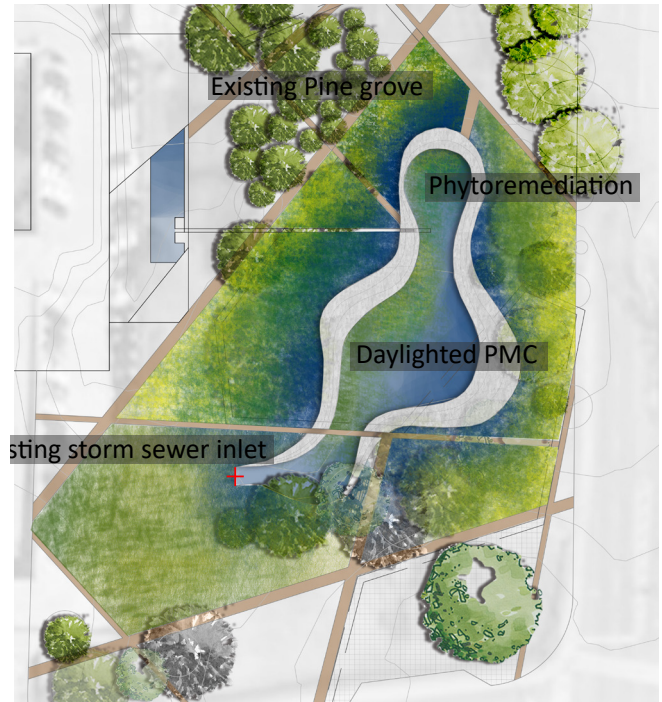


Figure 5. Detail of Daylighting PMC. Image credit: Author.

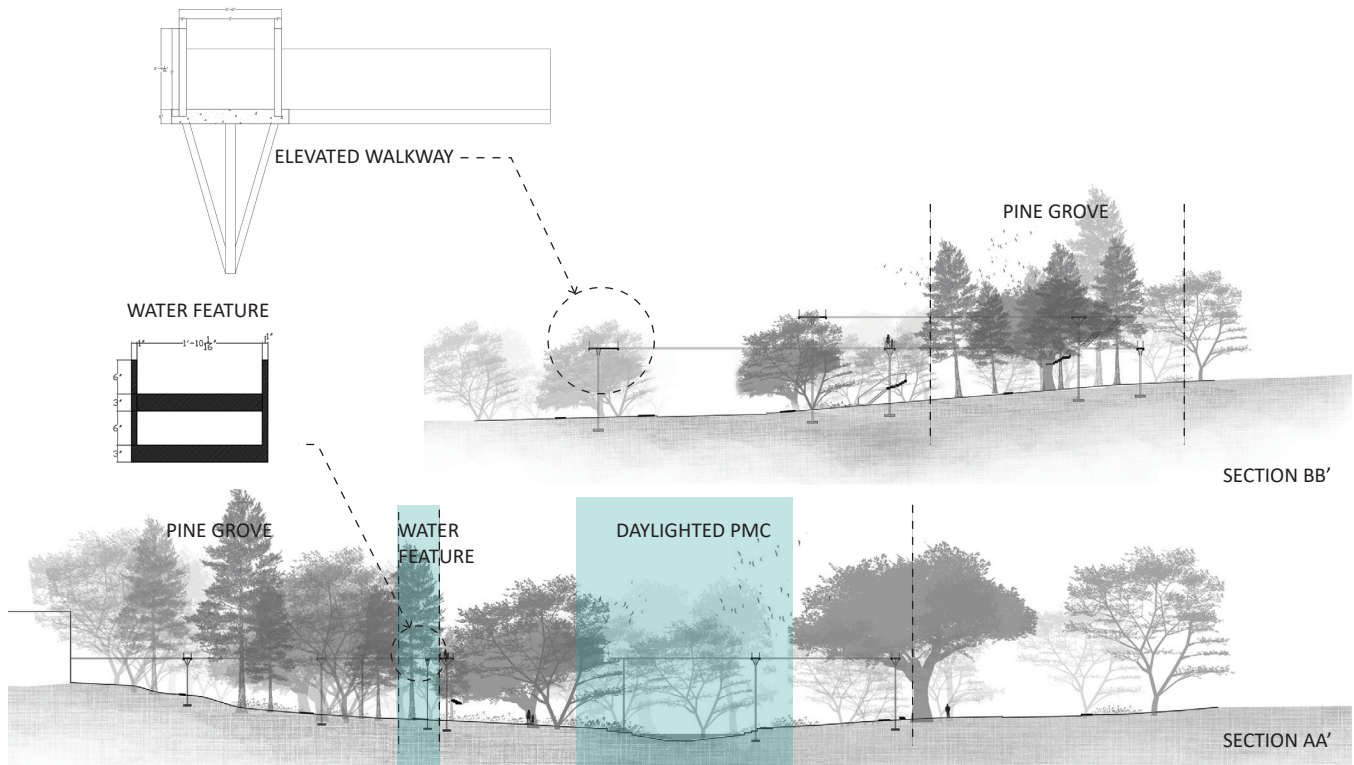


Figure 6. Sections and details. Image credit : Author.



Figure 7. Photo-collage of water storage area. Image credit: Author.

for parking lots to reduce pollution and create a replicable connection throughout the city of Auburn.

PLANTING PLANTS

As a diagrammatic planting plan, the design keeps the existing trees as much as possible and has been attempting to choose trees that could complement trees' existing pallets. Water oak, willow oak, sweetgum, Black locust, green ash, Hackberry, black oak, Japanese elm, pin oak, post oak, River birch, southern magnolia, bald cypress, and last but not least, loblolly pine are some existing trees in and around the site. The loblolly pines, bald cypress, and some water oaks are some of the oldest old trees on the site. This design research focuses on trees based on three major categories:

1. Keeping the existing trees and their features and add trees to complement them.
2. Trees with changing fall colors and blooms.
3. Aquatic plants that purify water through phytoremediation.
4. Standing water Shrubs that have a wildlife value

The design research aims to amplify the cluster of historical loblolly pine (approximately 80' tall). The elevated walkways cut through them to experience those tree's texture and monumentality in a different elevation. Longleaf pine and Virginia

pine are the substitute option for loblolly pine for other parts of the design. Another essential feature of the site is the cluster of water oak trees. Pin oak, southern red oak, Shumard oak, and sawtooth oak substitute for water oak with changing fall colors. For the understory, the design emphasized Oakleaf hydrangea and azalea, which could grow well under pine and oak clusters. Both the azalea and hydrangea have white bloom twice a year. However, Sweetspire substitutes those for its white bloom with fall color.

Additionally, The design research promotes Beautyberry, Highbush blueberry, black chokeberry, American Elderberry as a shrub layer near water feature to increase biodiversity. The fruits are edible for humans and wildlife at the same time. Nonetheless, small shrubs like Purple Coneflower, black-eyed Susan, summersweet clethra, lowbush blueberry, Northern bayberry, lotus, Water hyacinth, and duckweed dominate the daylighted creek area, and the other areas hold landscaping wash stormwater. However, ferns like lady fern, marginal wood fern, and Osterich fern cover the ground cover in some places adjacent to the water features.

MATERIALS

This design research promotes reused and recycled materials to maintain sustainability. Rainwater collection area on each



Figure 8. Photo-Collage of PMC water purification area. Image credit: Author.



Figure 9. Daylighted PMC. Image credit: Author.

building's rooftop, a water channel from the roof to celebrate the rain, and a stormwater storage area with standing water species are vital features of the design. The terraces like water features near Comer hall will work as a waterfall when it rains, and other times it could, be used as sitting areas with colorful shrubs and berry trees for the students and visitors. Corten rustic steel is the primary material for the water channel. The sustainable boardwalk is the primary material for The elevated walkways. Daylighting Parkerson Mill creek is a vision of stormwater collection, purification, water celebration, public space, and biodiversity for Auburn University and the city of Auburn.

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